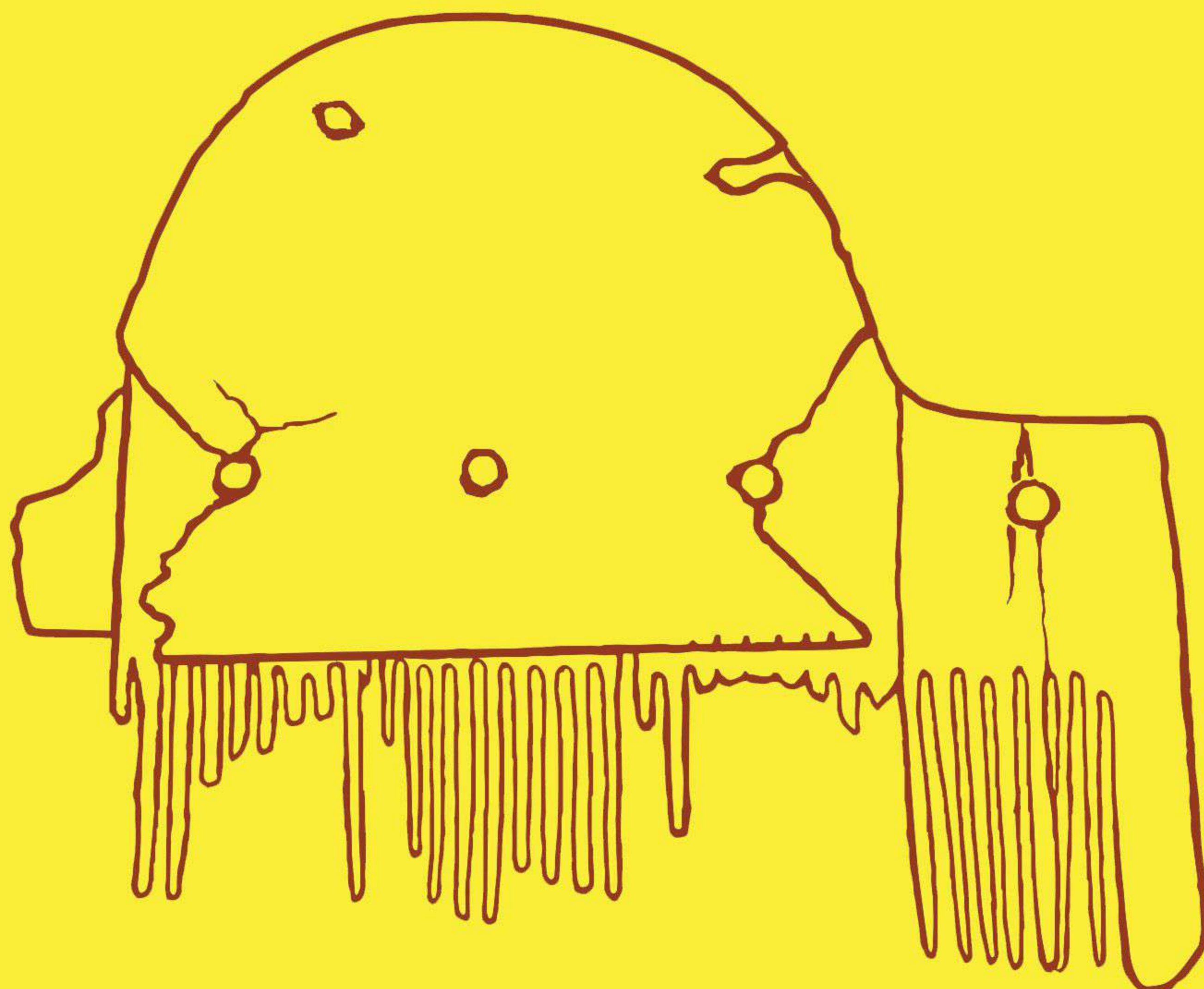


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Special theme:

Pontic Olbia in the Post-Roman Period

Editorial

We are presenting to readers a volume of *Archaeologia Polona* containing a collection of articles resulting from excavations conducted by a Ukrainian-Polish team in the years 2018–2021 in the ancient centre of Olbia Pontica on the north coast of the Black Sea. The excavations were a joint initiative of both the Institute of Archaeology of the National Academy of Sciences of Ukraine and the Institute of Archaeology and Ethnology Polish Academy of Sciences. The aim of this volume is to present the results of the recent archaeological campaign led by Prof. Dr Alla Buiskykh and Dr Alfred Twardecki in the broader context of our knowledge about the areas neighbouring Olbia.

These Polish-Ukrainian excavations began in 2016. Initially, on the Polish side, they were held under the aegis of the National Museum in Warsaw, and since 2019, under the same management on the Polish side, under the aegis of the Institute of Archaeology and Ethnology of the Polish Academy of Sciences. Due to the disruptions caused by the Covid epidemic and then the full-scale invasion of Ukraine by the Russian Federation, only four full-scale excavation campaigns were held in 2016–2018 and 2021. There were also two documentation campaigns in 2019 and 2020, when no excavations were carried out due to external restrictions. Since 2022, no personal access to the Olbia Reserve and storage resources is possible due to the ongoing military conflict. Nevertheless, the results of the first three excavation campaigns, confirmed and extended by the results of work carried out in 2021, prompted the Polish and Ukrainian excavation leaders to unanimously state that it is time for the first summaries. These results not only resolved several decades of discussion about the nature of the settlement in Olbia after the Romans left this place, but also contributed to the formulation of a completely new thesis about the moment when the inhabitants finally left the site of the former Olbia. Based on the results of excavations carried out in Trench R-23 and confirmed during the excavations of the Ukrainian expedition in the trench R-25, it was established that ancient Olbia was populated by inhabitants of the Cherniakhiv culture in the first decades of the 5th century.

As a result, the participants of the excavations, as well as recognized specialists in the Cherniakhiv culture and the Hunnic culture, were invited to participate in preparing papers for the current issue of *Archaeologia Polona*. Many of the papers gathered for the volume are devoted to discussing artefacts and other material obtained during the excavations and their analysis. To obtain a broader context, researchers dealing with Olbia from the Greco-Roman period and neighbouring archaeological sites, such as Tyras or fortified points in the broad area of Greco-Roman Olbia, were also invited to submit contributions.

To the sincere regret of the organizers, not all the authors, who initially agreed, were able to prepare their papers for printing in this publication. Due to personal reasons (but mainly due to the outbreak of the War and direct involvement in military operations), some of our Ukrainian colleagues were not able to prepare their texts. The editors fully understand these reasons and sincerely sympathize with our colleagues who are actively defending their homeland as we write this. Ultimately, we managed to collect twelve texts. They can be divided into three types. The first group consists of papers discussing individual categories of finds obtained during excavations. The second series of texts discusses various aspects of sites outside Olbia, thus providing valuable comparative material. The third category includes synthetic texts.

Serhii Didenko in his paper *Ceramic Complex of the Post-Antiquity Horizon of Trench R-23 of Olbia (based on material from excavations from 2016–2018, 2021)* presents an analysis of Late Roman pottery. He confirms the functioning of a settlement of the Cherniakhiv culture in former Olbia. Within the citadel itself, this presence is documented by ceramic finds from the beginning of the 4th century to the first decades of the 5th century. This conclusion is crucial for all further arguments related to the functioning of Olbia in the Gothic and Hunnic periods. Olga Puklina in her paper *Glassware from the Excavations in Sector R-23 of Pontic Olbia* presents glass artefacts, some of which date back to the 4th and 5th centuries and were found in layers related to the Cherniakhiv culture settlement in Olbia. Alisa Semenova in her paper *Composite Antler Combs from Olbia Pontica* analyses composite combs found in Olbia. They are an important and unambiguous marker confirming that the inhabitants of Olbia at that time (3rd–5th centuries) belonged to the Cherniakhiv culture. Irina Sheiko in the paper *Recent Finds of the Latest Lamps from Olbia* presents a collection of lamps found in layers in Trenches R-23 and R-25. For most of these items, their dating is the mid-3rd – early 5th century. The origin of the lamps indicates contacts with the Mediterranean basin during this period. The author also discusses the only artefact with Christian symbolism found so far in Olbia.

Marcin Matera and Nadiya Gavrylyuk present in their paper *The Fortifications of the Late Scythian Settlement at Konsulivske* details of the construction of a late Hellenistic fort on the outskirts of Olbia. Kirylo Myzgin in his paper *Roman Coins in the Northern Black Sea Littoral Region: The Cherniakhiv Culture Perspective* presents chosen Roman coins and their imitations found outside Olbia. The author concludes by pointing out, based on the distribution of Roman coin finds, that a clear concentration of coins from the 4th and 5th centuries occurs between the Dnister and the Danube. Oleh Petrauskas and Ruslan Shyshkin in their paper *Glass-production Workshop of the Hunnic Times near Komariv on the Dnister River* presents the results of excavations at the Komariv site on the Middle Dnister. They mention that it was the only centre for the manufacture of glass products known outside the Roman Empire. The decline of the centre, clearly related to the Cherniakhiv culture, dates to the mid-5th century. Such a long operation of such a unique craft centre proves the long-term cooperation between the Hunnic invaders and the Gothic settlers. Oleh Saveliev in his paper *Tyras in Late Antiquity* states that from the 3rd to the 5th century, Tyras existed as a settlement of the Cherniakhiv culture. There are two periods here – from the mid-3rd to the end of the 4th century and from the end of the 4th century to the beginning of the 5th century. In the first period, Tyras maintained quite extensive contacts reaching all the way to the Mediterranean Sea, judging by the imports found at this site. The second phase still shows, however, the presence of imports, and they still come from the Mediterranean basin. No building structures from this period have been found and it can be assumed that the number of inhabitants gradually decreased. There were also found lamps with Christian symbols. Tyras finally fell into disrepair at the beginning of the 5th century.

Alla Buiskykh presents a text on *Building Activity in Olbia in the Late-Roman Time*. The author clearly states, based on her many years of experience from excavations in Olbia, the lack of urban continuity between the period of the presence of the Romans and the Goths. At the same time, she is critical of Boris Magomedov's thesis about the existence of a system of fortifications both around Olbia itself and in the vicinity, after the site was settled by representatives of the Cherniakhiv culture, she emphasizes the existence of a large, unfortified settlement at that time. Borys Magomedov in the paper *The Last Period of the History of Olbia: the First Gothic Town* presents his synthetic approach to both the Gothic settlement in former Olbia and the surrounding settlements of the Cherniakhiv culture. He believes that in the initial period, the Goths were only interested in the port (Lower Town), and only in the 4th century did they settle the area of the so-called citadel. He also believes that both the Gothic settlement in Olbia and the surrounding Gothic settlements were fortified at that time and were the focus of an important administrative centre

under the Goths – also in the Hunnic period. The last traces of settlement in ancient Olbia disappeared around the 430s. Roman Reida, Anatolii V. Heiko and Serhii Sapehin present in their work *The Dnipro Left Bank Forest-Steppe Region in the Hunnic Period* an overview of archaeological sites where the presence of Hunnic artifacts was identified. They conclude that the arrival of the Huns did not cause the collapse of the earlier settlements of the Cherniakhiv culture. Alfred Twardecki's essay *Olbia in the Hunnic Time. A Historical Perspective* discusses the historical background of the period of functioning of the former Olbia in the Gothic and Hunnic periods. He presents the most important studies on the Goths and Huns in recent decades, reconstructs the course of the Gothic wars (3rd–6th centuries) and analyzes selected sagas of Germanic mythology. On this basis, he formulates the thesis that Gothic Olbia, functioning from the 3rd/4th century to the beginning of the 5th century, was an administrative centre of pagan Goths who actively fought against their Christianized brethren. He also hypothesizes that this region can be identified with the land of *Oium* (derived from Olbium) and with the *Árheimar á Danparstæðum*, the capital of *Reiðgotaland*, mentioned in the oldest Germanic sagas.

The papers collected in this volume present a body of material and ideas that have not been published in such a form before. We are convinced that the unique set of top-class specialists who took part in preparing this volume and presented their studies of the new materials brought by our excavations in Olbia will contribute to a significant expansion of our knowledge about the role of this settlement in the Gothic and Hunnic periods, and they constitute a valuable contribution to the ongoing discussion of the transition from the Classical period to the post-Antique world that is taking place in different areas of Europe.

This block of texts is complemented by an extremely interesting article *Lviv Classical Archaeology Before World War II* by Natalia Bulyk, Roman Berest and Olena Tomeniuk on the history of research on classical archaeology in Lviv from the beginning of the 20th century to 1945. For much of that time (1918–1939) Lviv was in Poland and was in fact the leading centre of the nascent Polish classical archaeology from which emerged such eminent scholars in the field as Professors Kazimierz Michałowski and Kazimierz Majewski.

In the context of the ongoing War, the question of defence and opposition to external force are never far from everybody's mind, and a topical article by Oleksandra Ivanova and Ivan Zotsenko reminds us that these are issues that have been faced many times in Ukraine's past. Their subject is the defense system of Kyiv over the centuries from the Middle Ages to the present day (*Under the Shadow of Conflict: Understanding the Belligerent Landscapes of the Kyiv Triangle*). This is a thought-provoking study of the ways in which, over the centuries, the topography of Kyiv and its surroundings has been used to create a system of defensive lines. The article is also an appeal for

the protection of the remains of these structures due to their unique archaeological and historical value.

This is joined by another important and topical text, a contribution to the broader discussion on the antiquities market and the role of modern technologies in its development. Paul Barford's paper *Archaeology and Commerce: Olbia "Dolphins" on the Global Antiquities Market* is an extremely interesting voice in a rather stormy discussion on the trade in antiquities in general, focusing on the online trade of cast "dolphin" coins produced in Olbia in the times of the functioning of the Greek colony there. This subject has taken on increased relevance in the context of the ongoing War, when the problem of "unofficial" finds and even robbing public museum collections in order to supply the market with antiquities is intensifying.

The texts in the volume are also complemented by the report from the conference *The 4th European Conference Europa Postmediaevalis 2024: Patterns and Inspirations*, Warsaw, Institute of Archaeology and Ethnology Polish Academy of Sciences, Faculty of Archaeology Warsaw University, 23–25.04.2024 by Magdalena Bis, Michał Starski and Maciej Trzeciecki. An additional feature are two book reviews: *Olena Fialko, Amazons: Myths and Reality* (2023. Kyiv: Institute of Archaeology of the National Academy of Sciences of Ukraine), reviewed by Evelina Kravchenko, and a review by Piotr Włodarczak of *Matthew J. Walsh, Sean O'Neill and Lasse Sørensen (eds), In the Darkest of Days. Exploring Human Sacrifice and Value in Southern Scandinavian Prehistory* (2024, Oxford and Philadelphia: Oxbow Books).

Alfred Twardecki
Alla Buiskykh

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Ceramic Complex of the Post-Antiquity Horizon of Trench R-23 of Olbia (based on material from excavations from 2016–2018, 2021)

Serhii Didenko^a

The excavations in 2016–2018 and 2021 in the southeastern part of the Olbia citadel (Trench R-23), carried out within the Ukrainian–Polish project of the Institute of Archaeology of the National Academy of Sciences of Ukraine, the National Museum of Warsaw, and the Institute of Archaeology and Ethnology of the Polish Academy of Sciences, revealed interesting contexts related to the latest horizon of this site. The ceramic complex of this horizon includes fragments of amphorae, red-slip wares, wheel-thrown greyware pottery and handmade pottery from the 4th to the first half of the 5th centuries. These categories of material are most characteristic of the sites of the Cherniakhiv culture of the North-Western Black Sea region.

KEY-WORDS: Olbia, Cherniakhiv culture, Late Roman period, amphorae, red-slip wares, wheel-thrown greyware pottery, handmade pottery

INTRODUCTION

In 2016–2018 and 2021, within the framework of the Ukrainian-Polish project of the Institute of Archaeology of the National Academy of Sciences of Ukraine, the National Museum of Warsaw and the Institute of Archaeology and Ethnology of the Polish Academy of Sciences, research was carried out in the southeastern part of the Roman citadel of Olbia (Trench R-23). On the Ukrainian side, the project was headed by Dr Alla Buiskykh, on the Polish side – by Dr Alfred Twardecki. The research was aimed at a comprehensive study of the Roman and Late Antiquity

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periods of the history of Olbia, since it is this time period that is perhaps the most controversial in the interpretations of the historical and political development of the ancient cities of the Northwestern Black Sea region as a whole and Olbian particular (see: Zubar 2001; Magomedov 2007; 2020; Krapivina 2013; 2014: 146–165; Tvardetskyi *et al.*, 2017). An international group of Ukrainian and Polish researchers was created to process the materials obtained, and a certain category of artefacts was assigned to each of them. The aim of the author of this article was to describe the utilitarian and storage ceramics of Classical times and Late Antiquity, as well as the interpretation of the categories of material of the Late Roman period. The results of this work were presented in the form of appendices to the reports of 2016–2018, and its main conclusion was the thesis that in fact the entire range of materials of the Late Roman period from Trench R-23 is characteristic of the archaeological complex conventionally associated with the Cherniakhiv culture (Didenko 2017; 2018a; 2019). Almost immediately these results were used by heads of the project in several preliminary publications and used for the isolation of a stratigraphic horizon associated with the Cherniakhiv culture on the territory of Olbia (Tvardetskyi *et al.*, 2017; Twardecki 2018; Buiskykh *et al.*, 2020; Twardecki and Buiskykh 2021). This article allows the reader to get acquainted in more detail with the material based on which these conclusions were made.

The main result of the work in Trench R-23 was the discovery of the housing and economic complex from the Late Roman period, which marks the latest horizon of the settlement on the territory of the Olbian citadel. It consists of the remains of two above-ground buildings, in the construction of which stone and mud brick were used, several utility grain pits, accumulations of debris, as well as several other artefacts in archaeological contexts (Fig. 1). The main diagnostic materials that make it possible to establish its cultural and chronological affiliation are amphorae and table ceramics from the production centres of the Late Roman Empire, as well as wheel-thrown greyware pottery and handmade pottery of the Cherniakhiv culture.

WHEEL-THROWN GREYWARE POTTERY

The wheel-thrown cooking and greyware tableware pottery were found in large quantities in all later contexts of the R-23 trench. It is represented by fragments of pots, bowls, vases, jugs, cups, large storage vessels. The specificity of the forms of this pottery, decorative design, technological methods and the fabric make it possible to attribute it to the Cherniakhiv culture and date from 3rd to the first half of the 5th centuries. Numerous analogies can be found in any area of the Cherniakhiv culture (e.g., Diaconu 1965; Mitrea and Preda 1966; Baran 1981: 85–98, fig. XII–XXI; Magomedov 1987: 44–61, fig. 16, 19–26; 2001: 45–56, fig. 24, 28–59;

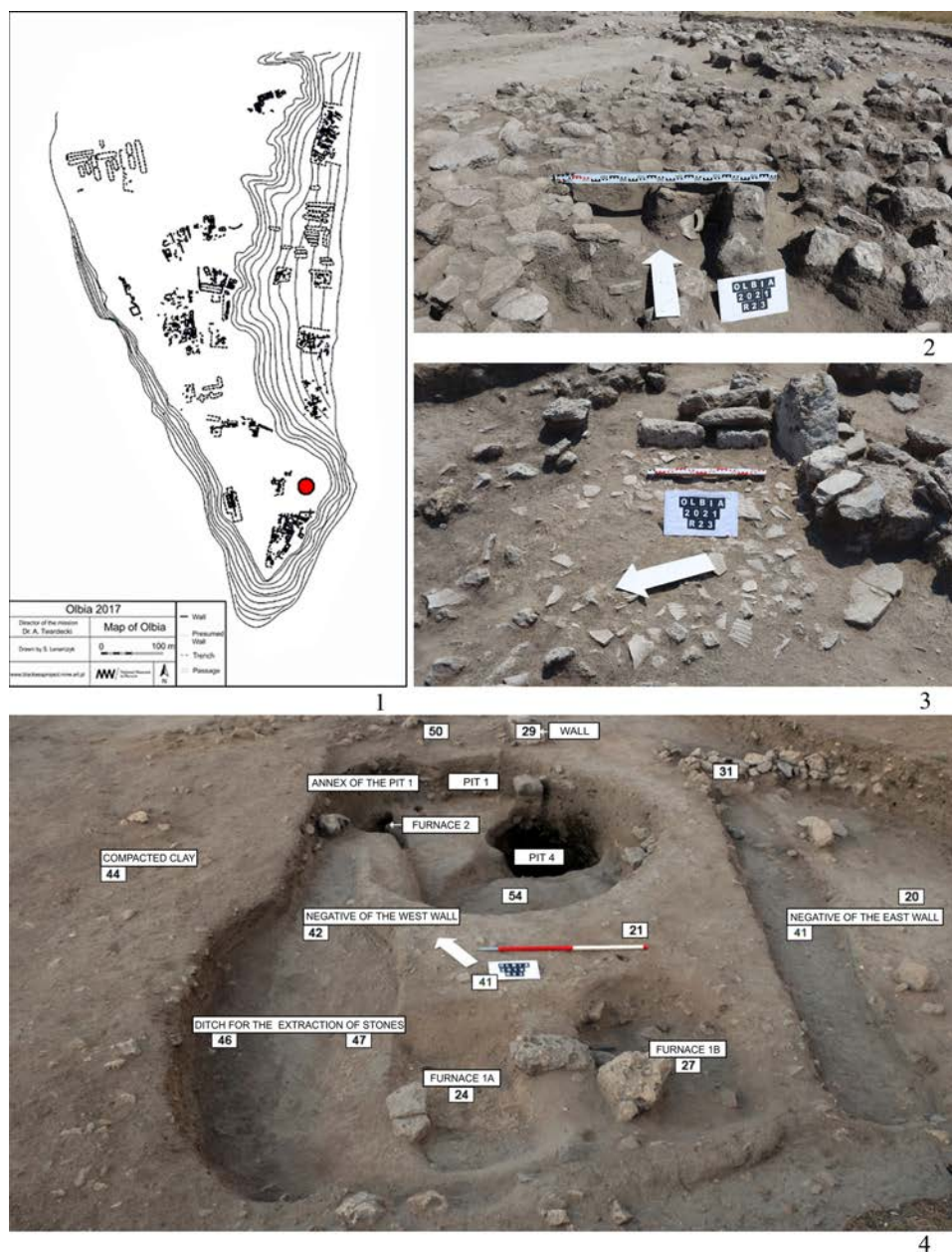


Fig. 1. Olbia, Trench R-23: 1 – location of the Trench on the map of Olbia; 2, 3 – clearing of the building 2; 4 – Pits 1, 4 and contexts of Building 1.

Photos and graphic design: S. Didenko.

Kravchenko *et al.*, 2007; Şovan 2009; Lyubichev 2019: fig. 107–139), including also features from earlier excavations in Olbia itself and adjacent archaeological sites (Schultze *et al.*, 2006; Krapivina and Schultze 2011; Magomedov 2020).

Pots

Pots belong to the category of kitchen utensils (Figs 2 and 3). They are made of clay with a high content of impurities that gave them resistance to all temperature ranges used during cooking on the hearth or in the oven. Their surface can be grey, grey-brown or black. Many fragments of pots came from the R-23 trench area that could have spherical, biconical or elongated proportions. There are three varieties of base known, vessels with a flat base, on a low flat-foot, on a low ring-foot. According to the method of decorating the rim, they are divided into two groups: pots of group 1 with the usual thickened rim in the form of a roller or teardrop in section (Fig. 2); group 2 vessels with complex rim profile (Fig. 3). Most of the fragments have complex rim profile, which is especially characteristic of the final stage of the Cherniakhiv culture.

Bowls

The richest variety of pottery tableware from the latest contexts of Trench R-23 are biconical bowls with a sharp or slightly rounded rim edge (Figs 4 and 5). The vast majority of the found fragments are made of good quality clay fabric. The grey or black surface is well polished, matte or shiny. But there are also examples made from coarse, “kitchen” fabric. The rims are mostly thickened, with a teardrop-shaped or roller-shaped profile. Less common are specimens with a flattened rim. Some vessels are ornamented with incised horizontal stripes, wavy lines or zigzag, the vessels may have plastic decoration in the form of cornices and cordons. There are two main groups of these vessels. Group 1 includes bowls with an open profile, in which the diameter of the rim exceeds the diameter of the body (Fig. 4). Group 2 consists of bowls with a closed profile, where the diameter of the body exceeds the diameter of the rim (Fig. 5). The bases of vessels of both groups are both ring and flat low feet.

Vases

A significant part of the fragments of wheel-thrown greyware table pottery belong to vases, which, in fact, are deep bowls, and can also have three short handles (Fig. 6). Their distinguishing feature is a wide horizontal rim and a rich variety of decoration. Among the material found in Trench R-23 there are fragments of vases with a T-shaped and L-shaped profile of the rim and a highlighted neck (Fig. 6:1–3). They are often decorated with incised ornaments in the form of horizontal stripes, wavy lines, zigzag or oblique grid, they may have relief decoration in the form of cornices, cordons,

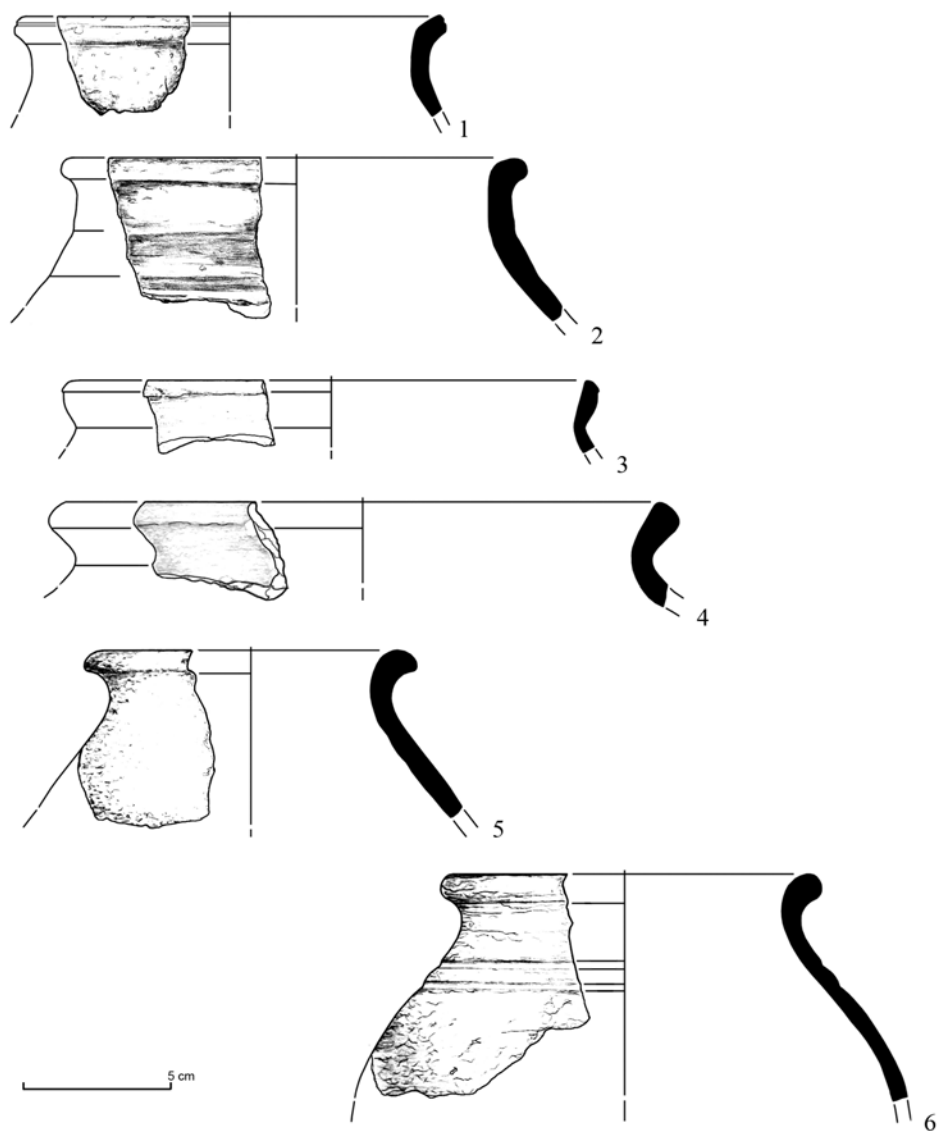


Fig. 2. Wheel-thrown greyware pots group 1 from Trench R-23.
Graphic design: S. Didenko.

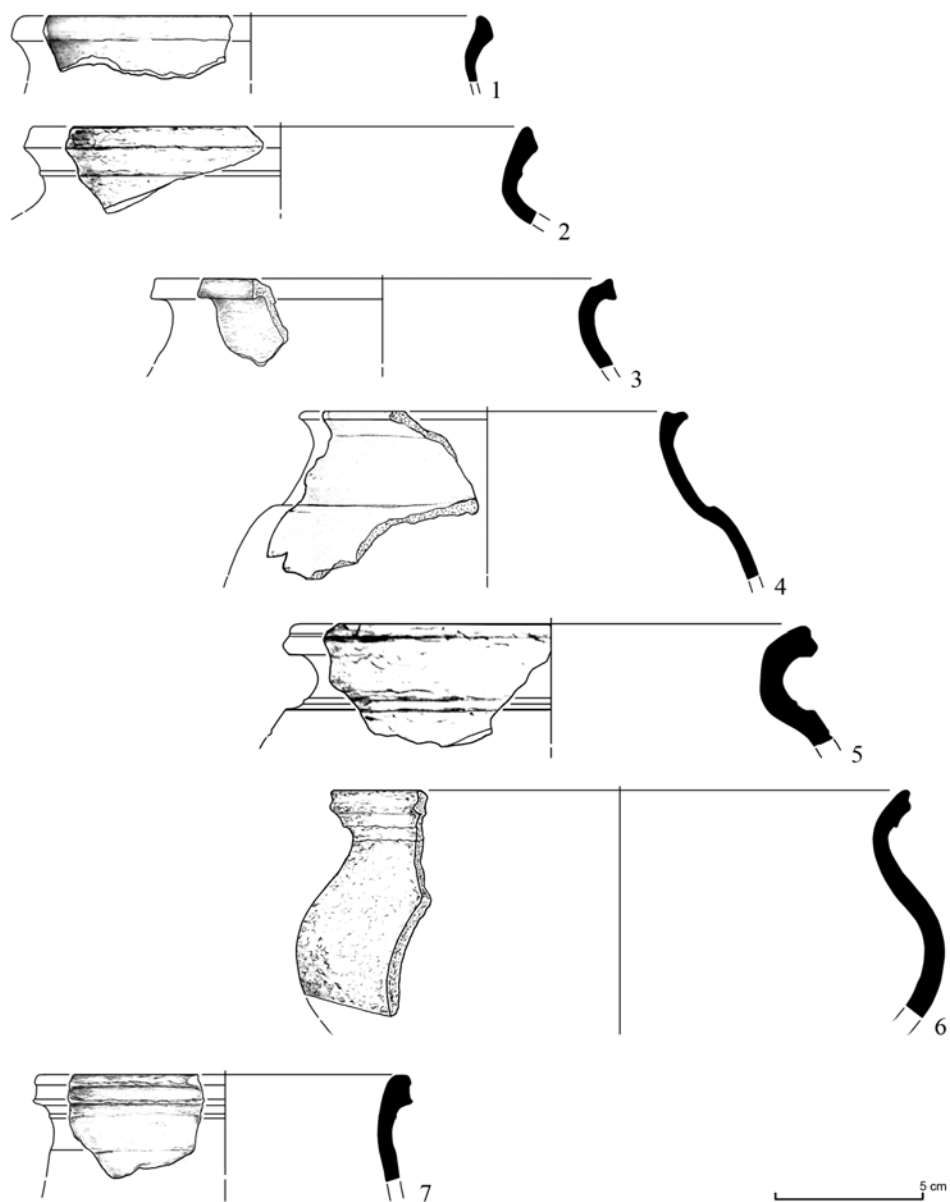


Fig. 3. Wheel-thrown greyware pots group 2 from Trench R-23.
Graphic design: S. Didenko.

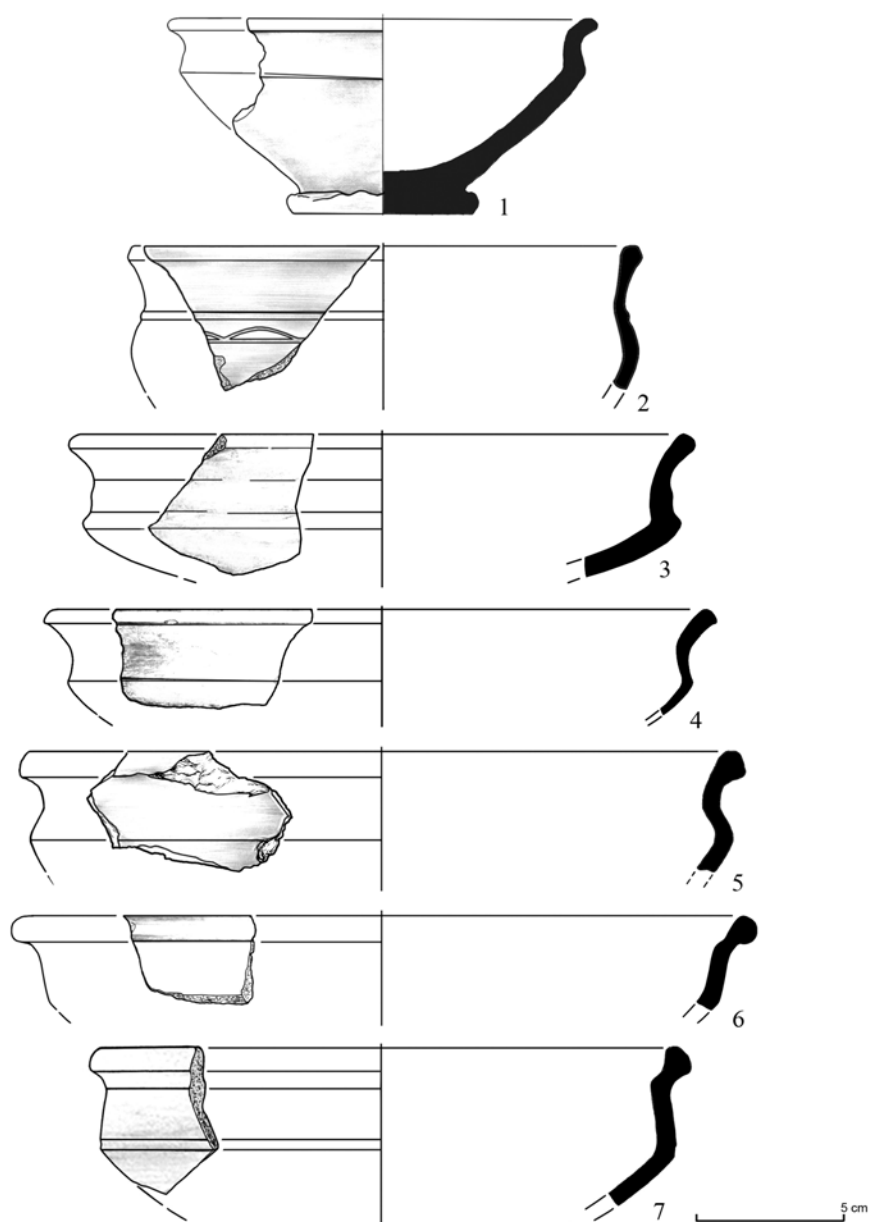


Fig. 4. Wheel-thrown greyware bowls group 1 from Trench R-23.
Graphic design: S. Didenko.

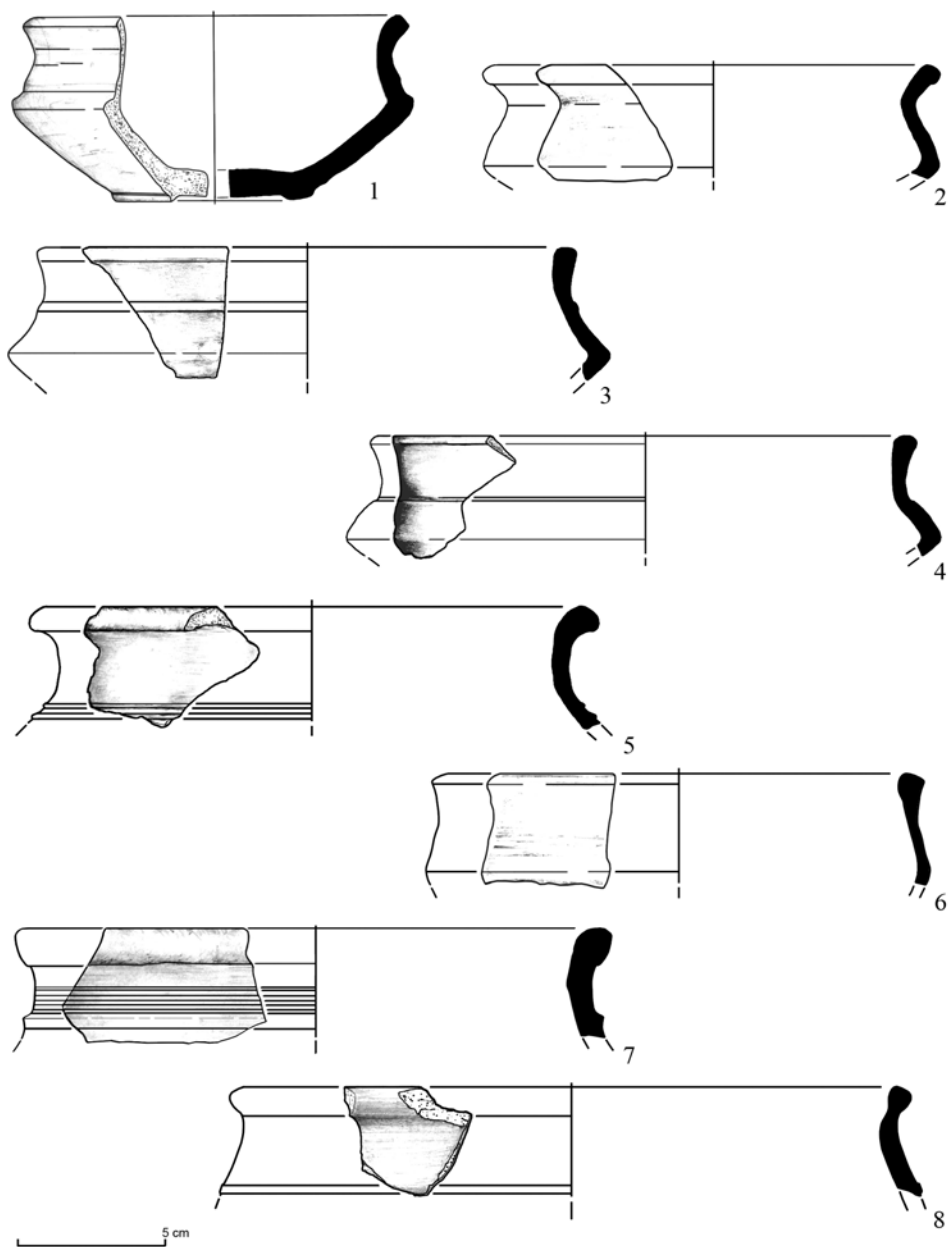


Fig. 5. Wheel-thrown greyware bowls group 2 from Trench R-23.
Graphic design: S. Didenko.

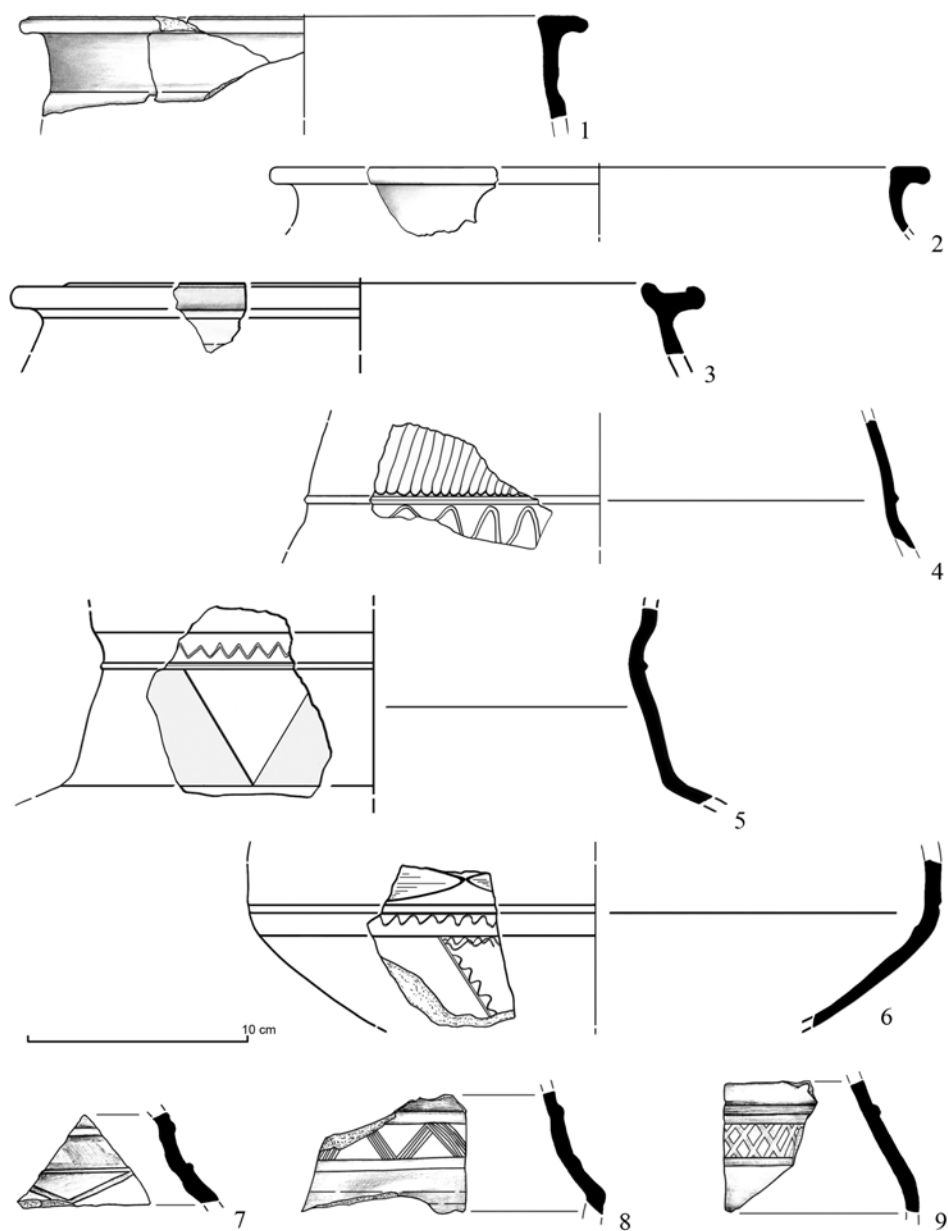


Fig. 6. Wheel-thrown greyware vases from Trench R-23.
Graphic design: S. Didenko.

flutes and cut facets. There are also fragments of vases with various combinations of decoration. It should be noted that vessels with a distinct neck and rich decoration were formerly identified by Boris Magomedov as vases of the Olbian type (Fig. 6: 4, 5). The finds of these vases are concentrated mainly in the sites of the Cherniakhiv culture of the Northern Black Sea region. At least five such vessels have been found in other trenches in Olbia (Magomedov 2001: 49, fig. 39:1–4; 2020: 222, fig. 2: 1–4).

Jugs

Jugs can be divided into two groups. Group 1 consists of a few fragments of jugs with two handles (Fig. 7:1). They are made of rough clay fabric, have an extremely wide neck and a thickened rim. B. Magomedov suggests that such vessels were used for cooking dairy products over a fire (Magomedov 2001: 52, fig. 51). Group 2 includes fragments of single-handled table jugs made of good quality clay mass (Fig. 7:2–7). Their grey or black surface is well polished, matte or shiny. Fragments were found with a narrow and wide neck, a straight or slightly everted and thickened rim, as well as a funnel-shaped rim. The most fragments can be attributed to the types 9 and 10 of the jugs of the Cherniakhiv culture according to B. Magomedov (Magomedov 2001: 51, fig. 46:2–12). They have a little highlighted neck, a slightly everted and thickened rim, decorated with an engraved ornament in the form of a grid or oblique stripes. In addition, fragments of jugs with a multi-faceted body were recorded.

Cups

Ceramic drinking vessels from Trench R-23 are currently represented by only one fragment of a cup with a polished surface, a slightly everted rim and a cornice when transitioning to the body (Fig. 8).

Large storage vessels

Typical for the Cherniakhiv culture are large thick-walled greyware storage vessels for storing grain, other dry goods, or liquids (Fig. 9). They are made of clay with a lot of impurities. Their height is 0.4–0.8 m, and the volume can be measured in several tens of liters. B. Magomedov identified three types of storage vessels of the Cherniakhiv culture. Vessels from Trench R-23 correspond to types 2 and 3 (Magomedov 2001: 56, fig. 59:5, 6). Type 2 has an egg-shaped body, a flat bottom, and a massive horizontal rim (Fig. 9:1–3). They are decorated with one or more cordons, which can be decorated with indentations made by finger tips. The closest analogies are known in the settlements of the Cherniakhiv culture in the south of Ukraine: Kamianka-Anchekrak, Horodok, Oleksandrivka, Kaborga-4. The vessels of Type 3 are large pots with a slightly everted rim and rounded contours of the body

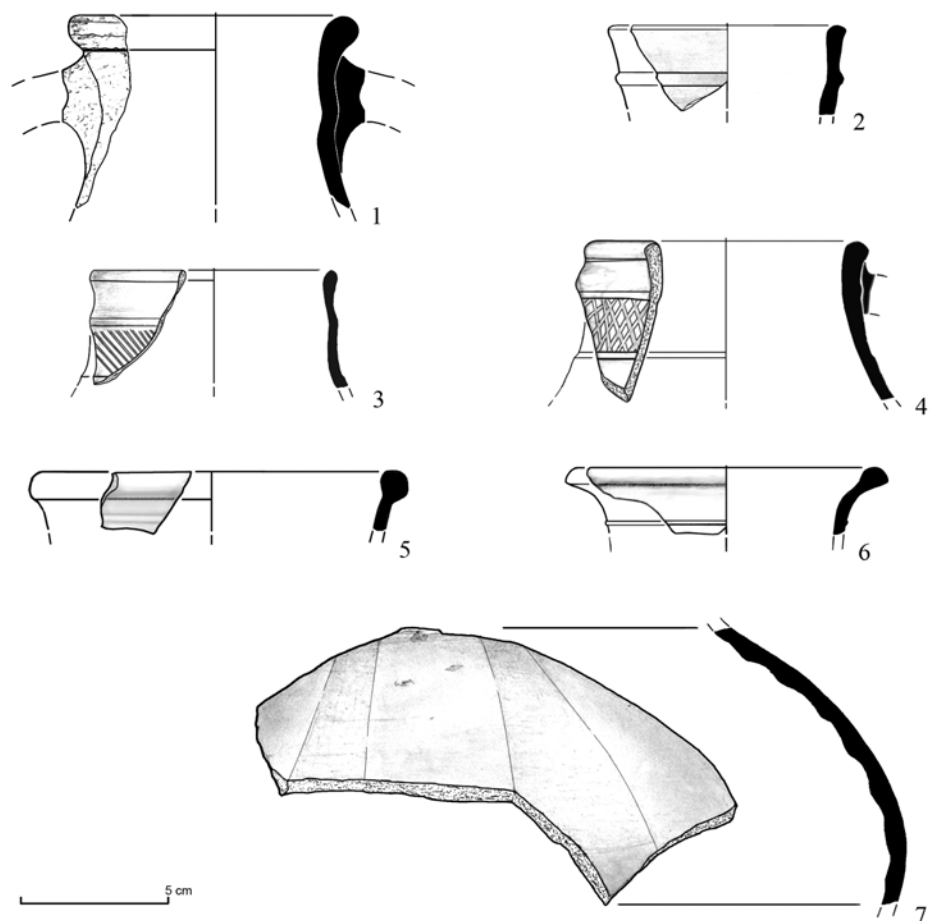


Fig. 7. Wheel-thrown greyware jugs from Trench R-23.

Graphic design: S. Didenko.

(Fig. 9:4, 5). They predominate on the sites of the Cherniakhiv culture in Central Ukraine.

The examples of wheel-thrown greyware pottery of the Cherniakhiv spectrum considered in this article are both culturally determining and dating material. There are fragments of the very vessels that make it possible attribute the latest stratigraphic horizon of Trench R-23 to the post-Antiquity/Cherniakhiv period with great confidence.

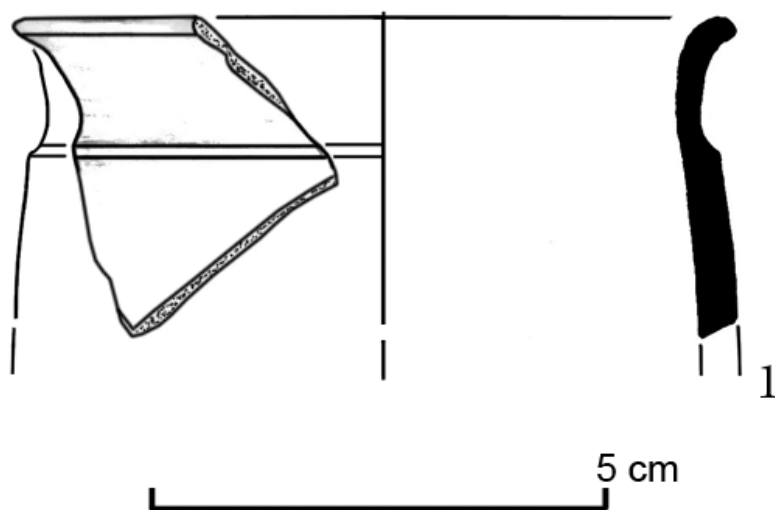


Fig. 8. Wheel-thrown greyware goblet from Trench R-23.
Graphic design: S. Didenko.

HANDMADE POTTERY

The handmade pottery from the contexts of the post-Antiquity horizon of Trench R-23 is represented by fragments of pots, bowls, and jugs, which can be divided into two categories.

The first category includes vessels made in the Northwestern (Germanic) tradition (Fig. 10). They are represented by fragments of pots and a jug of types IA, IB, IX A according to Ryszard Wołagiewicz (1993: 12, 16; tabl. 1, 2, 25, 26: 1, 2), as well as bowls of type Xa A according to Oleksandr Mylashevskyi (2017: 81, 82, fig. 2.8: 1–32), which have analogies among the materials of the Wielbark, Przeworsk and Cherniakhiv cultures.

Pots of the type Wołagiewicz IA also appear in the specialist literature as “kumpfs” or “Elbe pots”. They are characterized by an inward-inclined rim and an ovoid shape of the body. The profiling of the body is usually asymmetrical. A characteristic feature are the large impurities in the clay fabric and the rough surface of the body (Fig. 10:1–3). Pots of this type are the most common form of handmade ware of the Cherniakhiv culture and exist at all stages of its existence (Mylashevskyi 2017: 67–71).

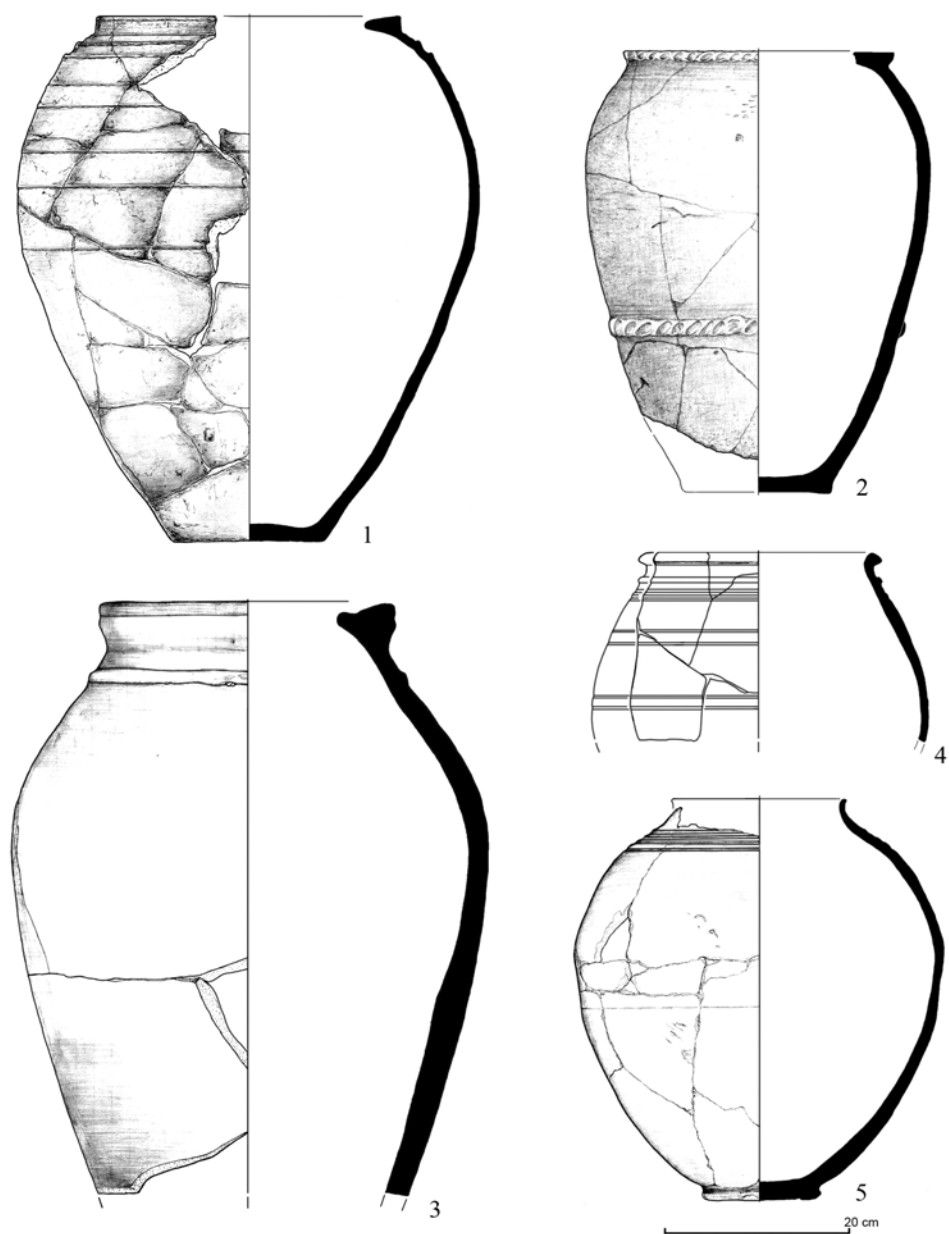


Fig. 9. Wheel-thrown large greyware storage vessels from Trench R-23.
Graphic design: S. Didenko.

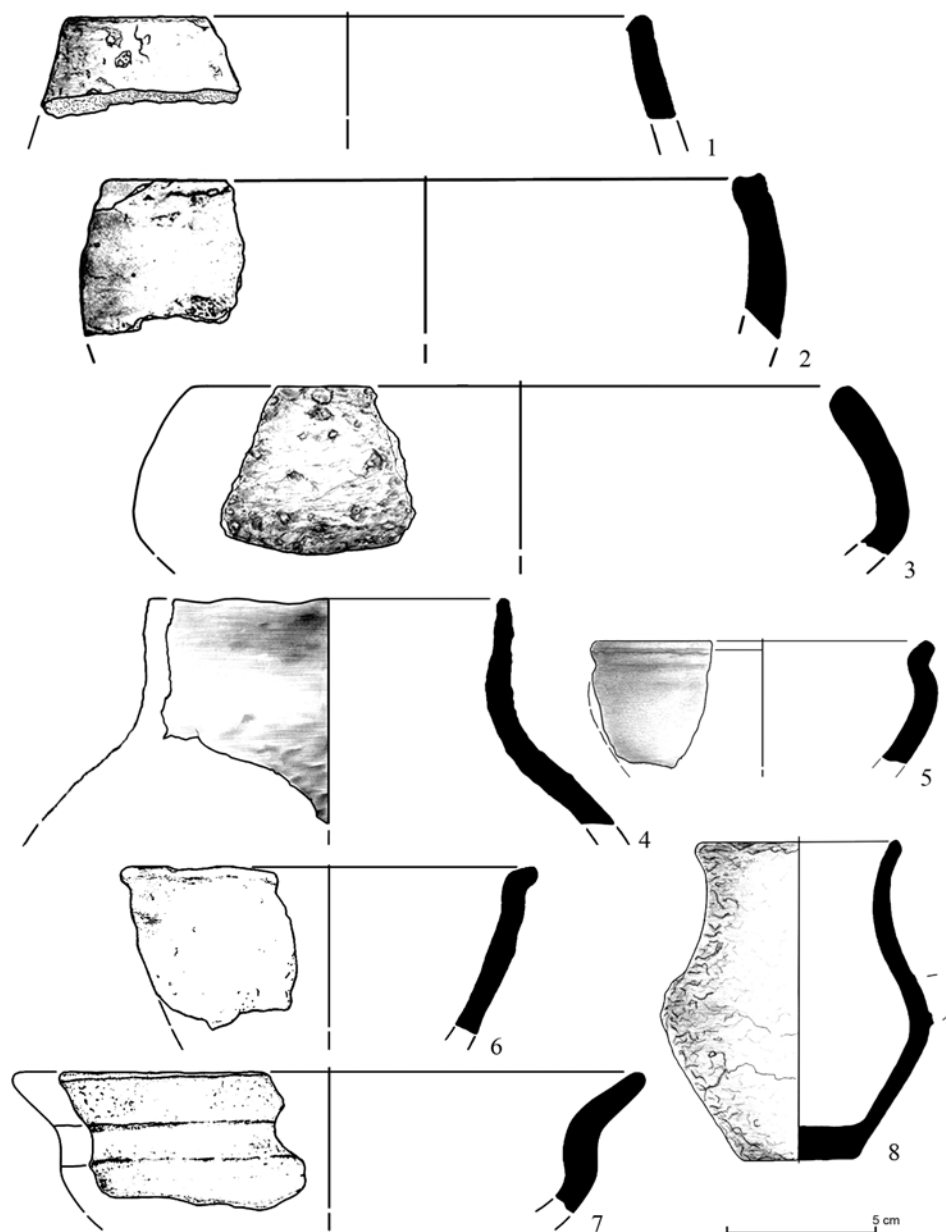


Fig. 10. Handmade pottery of the northwestern (Germanic) tradition from Trench R-23.
Graphic design: S. Didenko.

Pots of the type Wołagiewicz IB are characterized by a vertical rim and a smoothed surface (Fig. 10:4). They are characteristic of the second and third phases of the Cherniakhiv culture (about the last third of the 3rd – third quarter of the 4th centuries) and are distributed mainly on the Dnipro Right Bank (Mylashevskyi 2017: 71–73).

Jugs of Wołagiewicz type IX A are represented by one almost intact specimen (Fig. 10:8). Its biconical body has a flat base, a short wide neck smoothly turns into a slightly everted rim. This type of cookware is characteristic for the first to fourth phases of the Cherniakhiv culture (the second third of the 3rd–4th centuries). It is most often found on the sites of the Dnipro-Buh and Buh-Dnister interfluvium (Mylashevskyi 2017: 80, 81).

Vessels of Mylashevskyi type Xa A are bowls with an everted rim and a truncated-conical body. Among the materials from the R-23 trench, fragments of low bowls of the Xa A1 subtype (Fig. 10:7) and fragments of tall bowls of the Xa A2 subtype (Fig. 10:5, 6) are known. This type of vessel is known throughout the Cherniakhiv culture. At the same time, bowls of the Xa A1 subtype are present in the complexes of the second and third phases of the Cherniakhiv culture (about the last third of the 3rd – third quarter of the 4th centuries), while the vessels of the Xa A2 subtype are characteristic of the third and fourth phases, that is, about the second quarter – the end of the 4th century (Mylashevskyi 2017: 82).

The second category of handmade pottery from Trench R-23 consists of fragments of vessels that find analogies among the materials of Cherniakhiv sites with a Sarmatian or Late Scythian cultural component. These include fragments of pots with a strongly everted rim, as well as pots with finger pinches on the rim (Fig. 11). Such vessels are characteristic for the Cherniakhiv culture of the Northern Black Sea region and the Lower Danube region (Magomedov 2001: 46, fig. 26). However, it is possible that the fragments of this pottery originated from earlier layers of the R-23 trench.

Thus, handmade utensils from the post-Antiquity horizon of Trench R-23 are represented by the most characteristic forms of the Cherniakhiv culture, made in the Germanic and Late Scythian/Sarmatian traditions. Such an ethno-cultural situation is generally characteristic of the sites of the Middle Dnipro and the North-Western Black Sea region.

AMPHORAE

An important component of the ceramic complex of the post-Antiquity horizon at Trench R-23 are fragments of amphorae. The data obtained after examining of this category of material are the main source for reconstructing the connections between

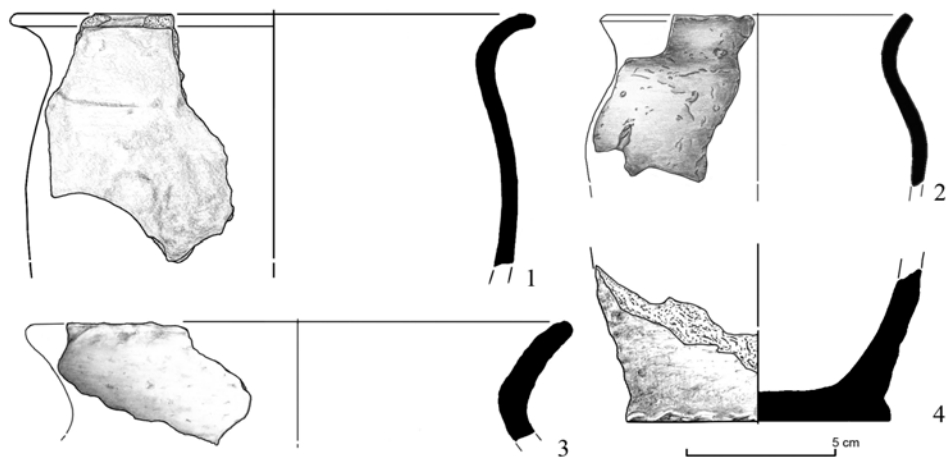


Fig. 11. Handmade pottery of the Late Scythian/Sarmatian tradition from Trench R-23.
Graphic design: S. Didenko.

the local population and the Roman Empire, and the relatively rapid evolution of the forms of transport amphorae makes it an important dating material.

Sinopean Amphorae

Most of the fragments of late antique ceramic transport vessels from Trench R-23 belong to amphorae of type C Snp I according to the typology of Dominique Kassab Tezgör (Kassab Tezgör 2010: 128, 129). In the professional literature on amphorae of the Northern Black Sea region, they are also known as the Zeest100 type and the Dalekeu type (Zeest 1960: 120, taf. 39: 100; Rikman 1967: 194, fig. 18: 1). Workshops for their production have been unearthed in the village of Demirci near Sinope (Garlan and Kassab Tezgör 1996). These large vessels with a volume of 17–70 litres have a wide short neck and an elongated conical body with a narrow base (Fig. 12). The rim is formed by applying a wide band to the edge of the neck. Short and oval handles are profiled with one or two ribs seen in the section. Based on the materials of the Demirci production centre, D. Kassab Tezgör dates these vessels to the 4th–5th centuries, possibly the beginning of the 6th century (Kassab Tezgör 2010: 132). But the peak of their production falls in the second half of the 4th – the first half of the 5th centuries (Didenko 2018b: 102–107). Type C Snp I vessels could be used for transportation of dry products (Kassab Tezgör 2010: 133) or wine (Magomedov 2011: 368).

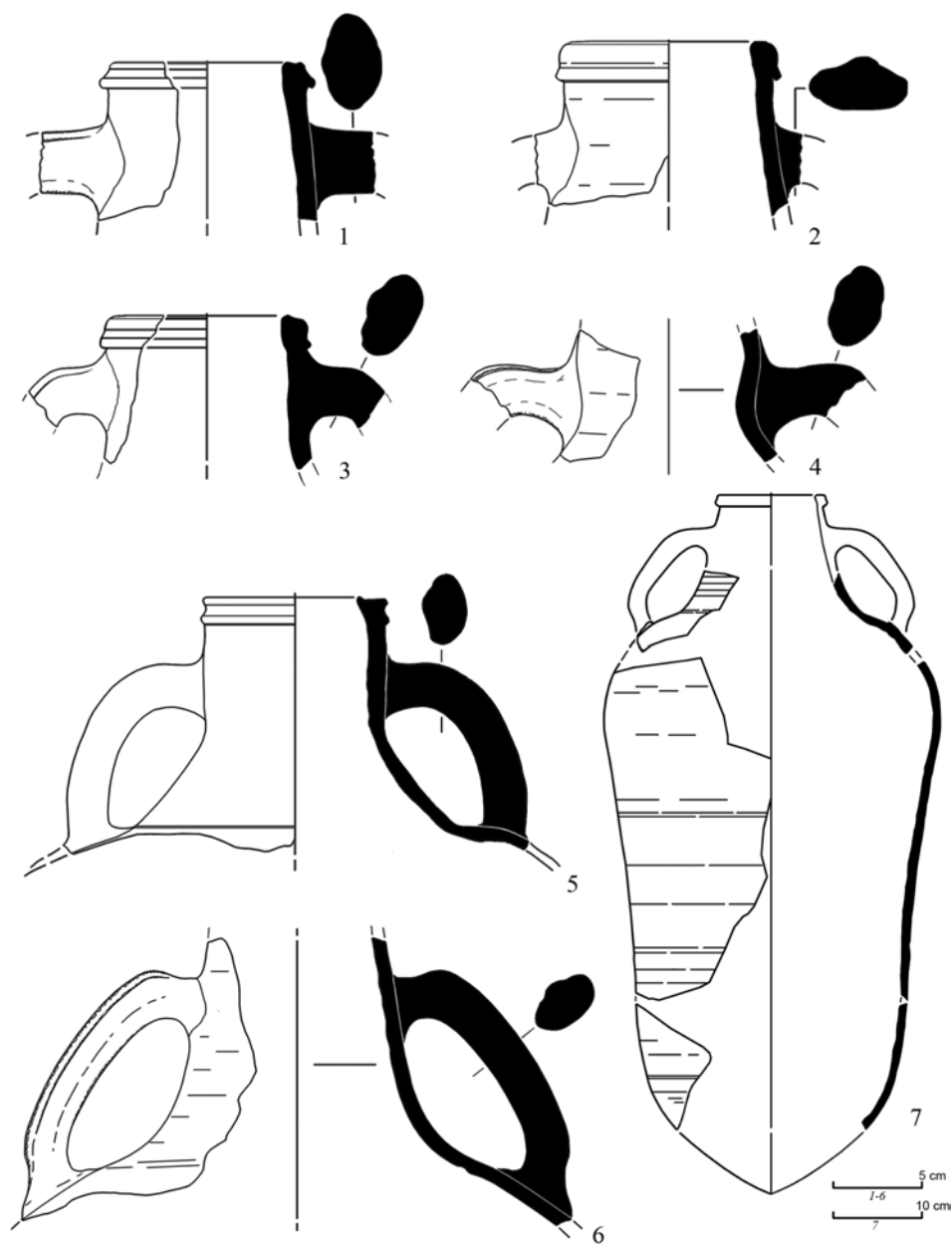


Fig. 12. Amphorae type C Snp I from Trench R-23.
Graphic design: S. Didenko.

In the R-23 trench, numerous fragments of amphorae of this type have been found in the cultural layer, accumulations of stone and debris, in the filling of Recess 1 and Pits 1, 4, 5, as well as in the contexts of Buildings 1 and 2.

The light-clay narrow-necked amphorae from Heraclea Pontica

In the materials of the R-23 trench, these amphorae are represented by types F and E according to Dmitriy Shelov (1978). According to petrological research and the unearthing of a workshop in Alapli (Turkey), the centre of their production was the city of Heraclea Pontica on the southern Black Sea coast – one of the largest suppliers of wine to ancient markets (Arsen'eva *et al.*, 1997; Vnukov 2006: 48–57; 2016: 36). Recently, I have developed a detailed typology and chronology of type F vessels, as well as a chronological framework for the existence of type E amphorae (Didenko 2018b: 31–85).

Amphorae of the Shelov F type (Figs 13 and 14) are characterized by a narrow, downward-expanding throat with a roller-shaped rim and an elongated conical body on a ring-foot. The body often has shallow corrugation. Handles are profiled with two to four grooves, oval or round in cross-section. The upper attachment of the handles are on the upper part of the throat, the lower one is on the shoulder. Amphorae of type F originated from many ancient and barbarian sites. But the vast majority of intact forms were found in the Crimean cemeteries of the Ozerne–Inkerman type, where burials are accompanied by coins and other chronological indicators, the time of existence of which does not cause significant disagreement among modern researchers. Drawing on the results of a detailed study of narrowly dated burials, I have concluded that type F amphorae replaced later versions of type D vessels in the late 320s and existed until the 370s inclusive. Based on morphological and metric characteristics, three subtypes of these amphorae were identified, successively replacing each other during the specified period of time (Didenko 2018b: 51–85). The earliest is the F1 subtype. The dating of most of the contexts, in which these vessels were discovered, does not extend beyond the second quarter – middle of the 4th century. In the 350s amphorae of the F1 subtype evolved into the F2 subtype. The complexes in which such vessels were found date to the third quarter of the 4th century. The last link in the evolution of the type F amphorae are vessels of the subtype F3. The possibility of their existence in the 380s and later is doubtful. The identified subtypes may be briefly described:

Subtype F1 – vessels with maximum width in the upper part and rounded shoulders with a volume of 3.8–6.5 litres, a height of 48–65.5 cm and a body diameter of 17–20 cm (Fig. 13:5). The rims are mostly asymmetrical, with a bevelled upper edge and a concave inner wall. The handles are flattened (thickness-to-height ratio

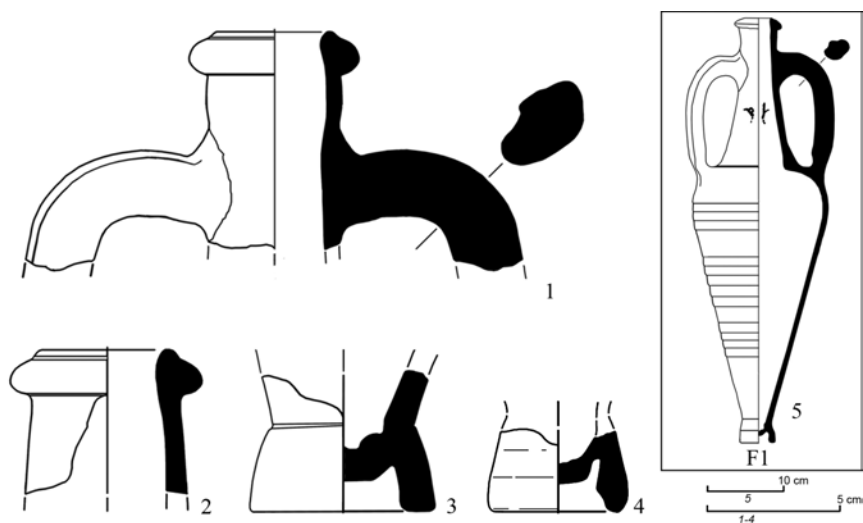


Fig. 13. Amphorae type Shelov F, subtype F1: 1–4 – Trench R-23; 5 – Neizac cemetery (after: Didenko 2018b: Fig. 49:2).

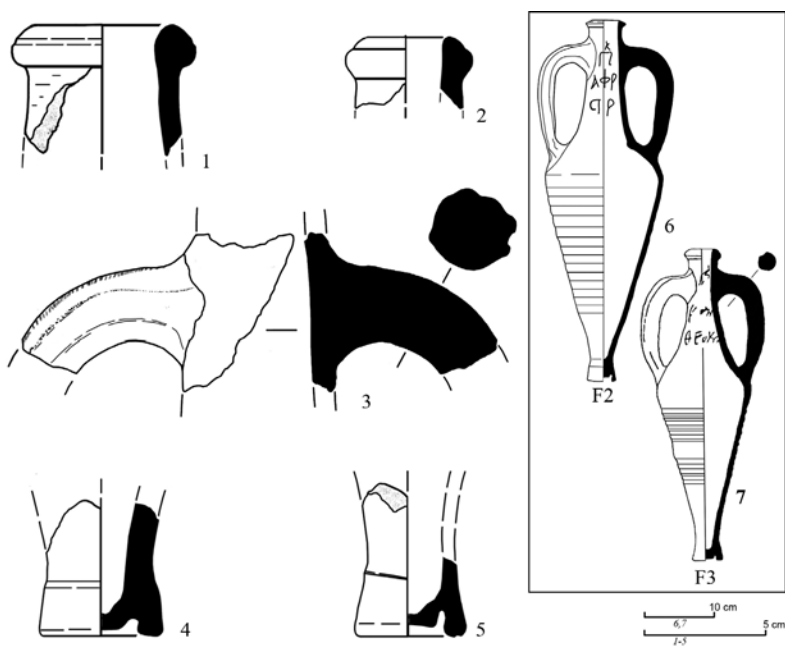


Fig. 14. Amphorae type Shelov F, subtypes F2, F3: 1–5 – Trench R-23; 6, 7 – Druzhne cemetery (after: Didenko 2018b: Figs 52:6, 55:7).

no more than 0.67) or oval in cross-section (thickness-to-height ratio 0.68–0.83). The ring-feet with a diameter of 4.8 cm, neatly formed, have a legible hemispherical or truncated-conical knob in the centre. Date: 325/330s – 350s.

Subtype F2 (Fig. 14:6) includes amphorae with maximum width just above the middle of height and gentle shoulders with a volume of 3.2–3.6 litres, a height of 48–60 cm, and a body diameter of 17–22 cm. The most common types of rims: asymmetrical with a bevelled upper edge and a concave inner wall; subtriangular or roller-shaped with a straight inner wall; massive rims with a wide flattened side edge. The cross-section of the handles is oval (thickness-to-height ratio 0.68–0.83) or round (thickness-to-height ratio more than 0.83). The ring-feet with a diameter of less than 5.3 cm are carelessly formed. Date: 350s – 360s.

Subtype F3 (Fig. 14:7) combines the vessels of biconical form with a volume of 1.5–3 litres, a height of 44–53.5 cm, and a body diameter of 13–16.4 cm. The massive rims with a wide flattened lateral edge dominate. The cross-section of the handles is oval (thickness-to-height ratio 0.68–0.83) or round (thickness-to-height ratio more than 0.83). The ring-feet with a diameter of less than 5.3 cm are carelessly formed. Date: 360s – 370s.

In Trench R-23, amphorae of subtype F1 are represented by a few fragments of rims, handles, and feet, which come from the cultural layer, accumulations of debris, as well as the contexts of Buildings 1 and 2 (Fig. 13:1–4). Fragments of amphorae of subtypes F2 or F3 are recorded in the cultural layer, stone accumulations, flooring over Pit 1, in Recess 1, as well as in the hearth in Building 1 (Fig. 14:1–5).

Amphorae of the Shelov type E (Fig. 15) represent the final stage in the evolution of light-clay narrow-necked amphorae produced by Heraclea Pontica. They are characterized by an oval, corrugated body narrowed downwards and a narrow neck with a massive rim in cross-section roller-shaped, subtriangular, trapezoidal, or quadrangular, often with a highlighted crest on the upper part. Massive, profiled with two or three grooves handles are oval or rounded in cross-section. The base is rounded or with a small knob. The height of these vessels reaches up to 70 cm, and the volume varies between 15–25 litres. Detailed study of auxiliary morphological features of light-clay amphorae of the Late Roman period allows us to assert that the shape of the rim and of the handles of the vessels of type E continues the line of development of the rims and handles of the most recent examples of amphorae of type F. Thus, the emergence of type E is associated with the completion of the production of type F. Finds of fragments of the late subtype of amphorae of type F and fragments of vessels of type E in some layers of a number of sites indicate that the transition to a new type-standard of the Late Heraclea container took place without a break in the chronology at the turn of 370s – 380s (Didenko 2018b: 83). The date of disuse of type E amphorae continues to be

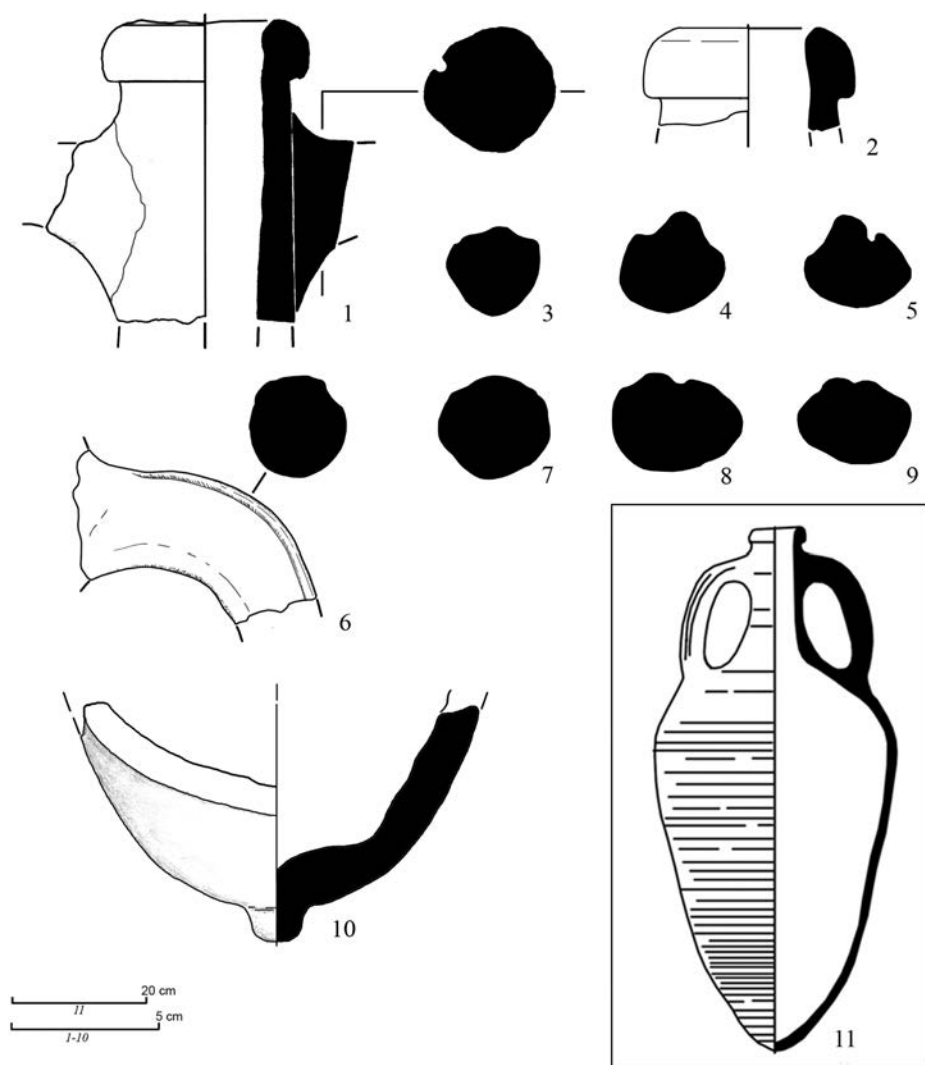


Fig. 15. Amphorae type Shelov E: 1–10 – Trench R-23; 11 – Kamianka-Anchekrak settlement (after: Magomedov 1987: Fig. 35:4).

blurred, generally limited to the middle of the 5th century. Fragments of amphorae of the Shelov E type from Trench R-23 were found in the culture layer, stone accumulations, and pit 4 (Fig. 15:1–10).

Amphorae of the Northeast Mediterranean

This small group of late antique transport vessels is represented in the materials of Trench R-23 by only a few fragments, which belong to the type LRA 1 (Late Roman Amphora 1), isolated by John Riley in the materials from Benghazi (Riley 1979: 212–216). Amphorae of the LRA 1 type (Fig. 16:4) are characterized by a low narrow neck and an ovate or ellipsoidal round-bottomed body with a specific (continuous or zonal) wavy corrugation. The handles, round or oval in cross-section, are most often profiled with grooves. Their upper attachments are located directly under the rim or slightly lower, the lower ones are planted on the shoulder. Rims have a lot of varieties of profiling – from simple roller-shaped to double cuff-shaped.

There is an extensive literature on the morphology, petrography, chronology, and production centres of LRA 1 amphorae, but the most detailed analysis of these issues has been made and summarized by Dominic Pieri. This researcher dated this type of amphorae to the end of the 4th–7th centuries and divided it into variants A, B, C (Pieri 1998: 98, 99; 2005: 69–84, 181–188; 2007). To date, we can confidently talk about at least 17 workshops in which they were produced. Two production centres operated on the islands of Rhodes and Kos. Twelve were located in the south of present-day Turkey: one workshop was found near the city of İçmeler on the southwest coast; eleven are concentrated on the southeast coast in the historical and geographical region of Cilicia (Elaiussa Sebaste, Seleucia, Soles-1; Soles-2, Tarsus, Karataş, Yumurtalik-1, Yumurtalik-2; Arsuz-1, Arsuz-2, Arsuz-3). Four more centres have been found on the southern coast of Cyprus – in Zygi, Amathus, Paphos and Kourion (Empereur and Picon 1989: 236–243; Pieri 2005: 80–84, fig. 38; Diamanti 2010: 203, 204; Demesticha 2003: 470, fig. 1; 2014: 601). Thus, the two main areas where LRA 1 amphorae were produced are Cilicia and Cyprus. According to D. Pieri, the functioning of the Cilician and Cypriot workshops was not synchronous – in the second half of the 6th century or the beginning of the 7th century, the production of these vessels could have been transferred from Cilicia to Cyprus due to a series of upheavals to which the Cilician region was subjected during this period (Pieri 2007: 614–616). For the most part, LRA 1 amphorae were intended for transporting wine, much less often olive oil (Riley 1979: 215; Van Alfen 1996: 190–201; Opaî 2004: 10; Pieri 2005: 81), although the possibility of transporting dry goods could be not excluded (Elton 2005: 691, 692; Yashna 2018: 12). In Trench R-23, a few amphorae of type LRA 1 are found in the filling of Pit 1, as well as in the culture layer, accumulations of stone and debris (Fig. 16:1–3).

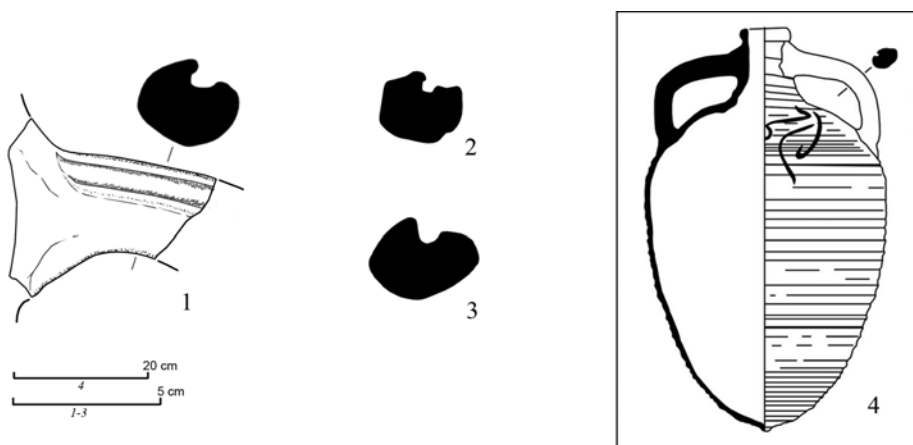


Fig. 16. Amphorae type LRA 1 Benghazi: 1–3 – Trench R-23; 4 – Kellia (after: Egloff 1977, Pl. 58: 2).

AMPHORAE OF THE NORTHERN BLACK SEA REGION

Single fragments of transport vessels from Trench R-23 belong to North Pontic amphorae with grooved handles, type 3 according to S. Didenko, also known as type Böttger I.5 (Böttger 1982: 44; Didenko 2018b: 86–96). Their appearance is associated with the evolution of amphorae such as Zeest 72, and the production time is limited to the 320s – 360s AD. These amphorae have an ovaloid fluted body, maximally expanded in the upper or middle part (Fig. 17:4). The short cylindrical neck passes into the oblique shoulders at the level of the lower third of the height of the arched, wide-set handles. The handles are profiled with several shallow grooves. The rim in the profile is rounded or subtriangular. The production of this type of amphorae is most likely associated with the ancient centres of the Crimean Peninsula. In Trench R-23 their fragments come from the cultural layer, accumulations of stones and construction debris (Fig. 17:1–3).

Thus, for now, five types of late antique amphorae have been recorded in the cultural layer and contexts of Trench R-23 that were produced in the ancient centres of the Black Sea region and the Mediterranean during the second quarter of the 4th–5th centuries. Their fragments make up about 30% of all ceramics of the Late Roman period found at this site.

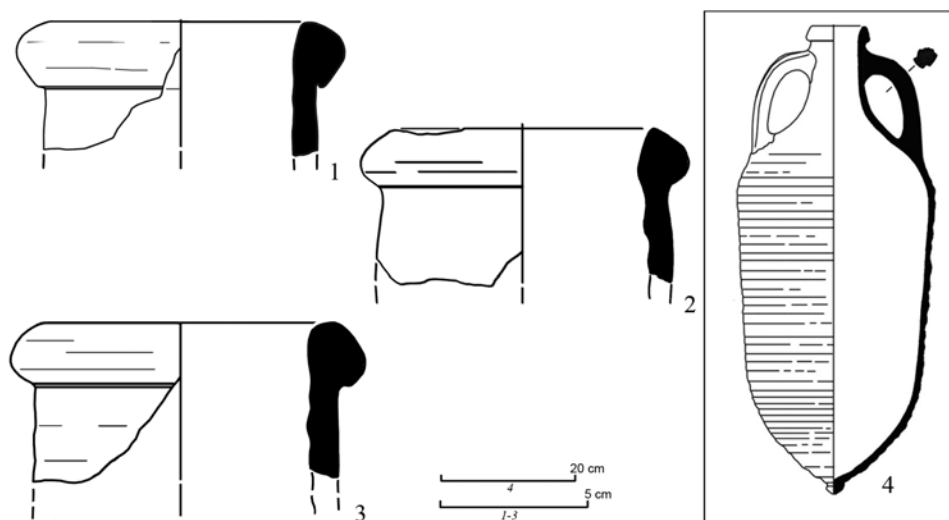


Fig. 17. Amphorae type Böttger I.5: 1–3 – Trench R-23; 4 – Chatyr-Dag cemetery (after: Myc *et al.*, 2006, Taf.4: 1).

RED SLIP WARES

From the contexts of the R-23 trench, a small number of fragments of red slip tableware from the production centres of the Late Roman Empire also derive (Fig. 18). This category of imported ceramics is represented by two groups: the PRS (Pontic Red Slip Ware) group, identified by Krzysztof Domżański; and ARS (African Red Slip Ware) group, highlighted by John Hayes.

PRS Group

Vessels of this group were produced in northern Anatolia in the western part of the province of Pontus from the 4th to the middle of the 6th centuries (Domżański 2021: 49, 50, 158). In the materials of Trench R-23, they are represented by fragments of vessels of forms 1A and 3.

Form 1A includes large thick-walled dishes with straight walls slanting towards the broad, flat base on a low ring-foot of a large diameter. The rim with a rounded or sharp edge is an extension of the walls and is only slightly incurved. The foot is separated from the wall by a characteristic undercut. The slip is brownish-pink or brownish-orange in colour, applied unevenly on the outside. Date: 4th century (Domżański 2021: 57–58). In Trench R-23, fragments of such dishes are found in the cultural layer, accumulations of stone and debris (Fig. 18:1).

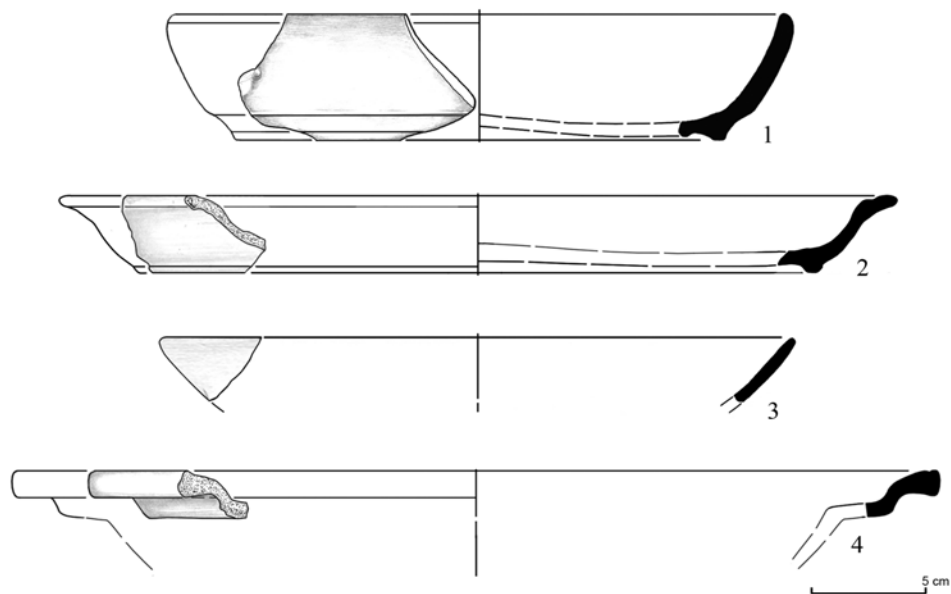


Fig. 18. Red slip wares from Trench R-23: 1 – PRS 1A; 2 – PRS 3; 3 – ARS 50; 4 – ARS 67.
Graphic design: S. Didenko.

Form 3 vessels include dishes with a wide rim and rounded walls, gently sloping towards the broad base on a low ring-foot of a large diameter. The wide rim has a rounded edge. The foot is separated from the body by a characteristic undercut. The slip is brownish-orange. Date: end of 4th – third quarter of 5th centuries (Domžalski 2021: 84–86). One fragment of this form of vessel was found in Trench R-23 among animal and fish bones (Fig. 18:2).

It is possible that among the materials of Trench R-23 there are also fragments of vessels of other forms of the PRS group. However, due to their fragmentation, their correlation with a specific form is problematic.

VESSELS OF THE ARS GROUP

This group is represented by single fragments of dishes and plates with red slip, which were produced in North African workshops at the territory of present-day Tunisia and were identified by J. Hayes as the forms ARS 50 and ARS 67.

Form 50 includes thin-walled dishes with a barely allocated ring-foot of large diameter and straight body that pass into a pointed edge. A thick red slip with an orange shade is applied evenly over the entire surface. Date: 4th century (Hayes 1972: 69–73). In Trench R-23, a fragment of such a dish was found in the hearth of Building 1 (Fig. 18:3).

Form 67 vessels are deep plates on a barely separated foot and a two-part flaring rim. The edge is thickened, usually decorated with a groove. The bottom is usually decorated with stamped ornaments or grooves. The red slip is applied evenly over the entire surface. Date: second half 4th–5th centuries (Hayes 1972: 112–116). Only one fragment of this type of plate was so far unearthed in the culture layer of the R-23 site (Fig. 18:4).

Table ceramics of Pontic and African production are quite characteristic for the ancient and barbarian sites of the Northern Black Sea region in the Late Roman period. In addition to the R-23 trench, such items have also been recorded at other trenches of the Olbian citadel (Krapivina and Domzhal'skiy 2008).

POST-ANTIQUITY HORIZON OF TRENCH R-23 – CHRONOLOGICAL AND CULTURAL-HISTORICAL ASPECTS

Among all the categories of pottery obtained during research in the R-23 trench, imported ceramics are the most reliable dating material. Based on the chronology of the types of Late Antique amphorae and red-slip vessels, the post-Antiquity horizon found here as a whole can be dated to the 4th – the first half of the 5th centuries (Fig. 19). Both wheel-thrown greyware pottery and hand-made pottery can be dated to the same range. Other chronological indicators from Trench R-23 do not contradict this date: they include fibulae and buckles typical for the middle and final periods of the Cherniakhiv culture, a late version of the comb of the Thomas type I, as well as fragments of glassware of the Late Roman period.

Such a composition of the finds, the ratio of categories of ceramics (local vessels – about 70%, imported ceramics – about 30%) and the presence of stone constructions are most characteristic for Cherniakhiv sites of the “Black Sea” type (Magomedov 1987). Thus, it can be argued that the post-Antiquity horizon of Trench R-23 is a consequence of the vital activity of the Cherniakhiv culture members. In its heyday, this multi-ethnic cultural and historical community occupied a vast territory of the forest-steppe regions of Ukraine, Moldova, Romania and, in part, Russia, the Dnipro steppes, as well as the North-Western Black Sea region from the mouth of the Dnipro to the Olt River in the lower reaches of the Danube. This culture assimilated various ethno-linguistic

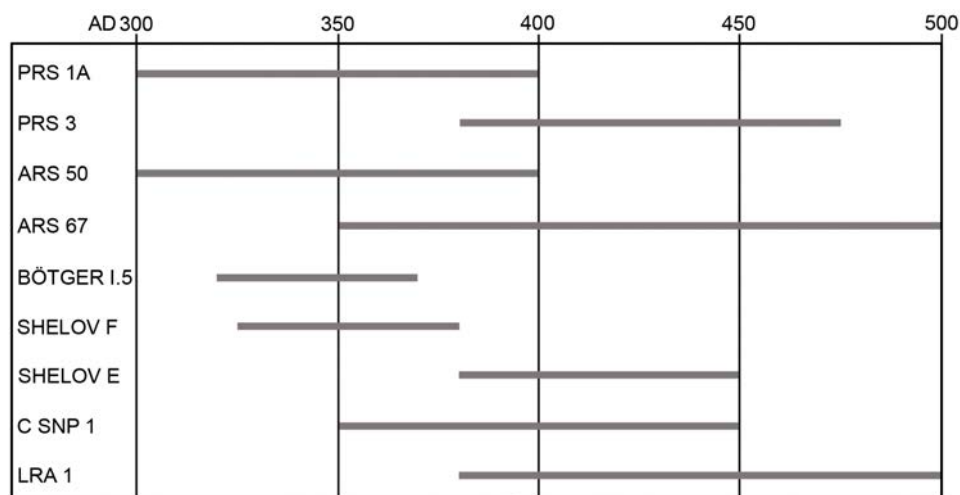


Fig. 19. Chronology of the post-Antiquity horizon of Trench R-23 according to the dates of imported pottery. Graphic design: S. Didenko.

groups – Germanic (Gothic), Slavic, Iranian (Scythian-Sarmatian), etc. The Cherniakhiv culture also correlates with the “the land of Oium” or “State of Hermanarich” – a Gothic association known from written sources. Its economic basis was a highly productive farming system, adapted to the natural conditions, so almost the entire area of the Cherniakhiv culture is located in the forest-steppe zone and steppe chernozems or the black earth. The tribes that created this culture were among the most advanced peoples of European *Barbaricum* in terms of the degree of development of production, the level of crafts and trade relations as well as were strongly influenced by provincial-Roman culture (Magomedov 2001).

The question of the nature of Olbia at the final stage of its existence has long been controversial. B. Magomedov has repeatedly presented compelling arguments in favour of the fact that from the end of the 3rd century AD Olbia became a settlement of the Cherniakhiv culture (2007; 2020). Vitalii Zubar shared the same opinion (2001). Valentina Krapivina believed that Olbia remained an ancient city until the end of its existence. As proof, she indicated the remains of stone buildings, streets, and roads, specific to the culture of classical antiquity, which she dated to the end of the 3rd–4th centuries (Krapivina 2013; 2014: 146–165). But the results of the latest research on Olbia do not allow us to agree with this. We now know that all the building remains mentioned by V. Krapivina, as an example of the 4th century construction, now date back no later than the mid-3rd century AD (Buisyskh and Novichenkova 2021).

It should be especially noted that in Trench R-23, the materials of the Cherniakhiv culture are placed immediately above the cultural strata of the Roman period. Therefore, in the Cherniakhiv complexes, earlier material is present here in large quantities and even predominates (different groups of *terra sigillata*, fragments of amphorae of the last quarter of the 2nd – middle of the 3rd centuries AD). Based on this, it can be assumed that the members of the Cherniakhiv culture, who appeared here at the beginning of the 4th century, settled directly on the ancient ruins of the middle of the 3rd century AD. In the process of construction and economic activities of the barbarians, ancient artefacts from the layer of Roman period fell in large quantities into their dwelling places, hearths and pits, which highly complicates the cultural and chronological interpretation of these assemblages. A similar situation is observed in other parts of the Olbian citadel (Zubar 2001; Magomedov 2020), as well as on some nearby archaeological sites (Schultze *et al.*, 2006). Thus, by the time the members of the Cherniakhiv culture appeared here at the beginning of the 4th century, the Olbian citadel would have been abandoned for several decades. From this follows another important assumption that has already been repeatedly expressed by researchers – in the middle of the 3rd century AD (250s / 260s) Olbia ceases to exist as an ancient centre (Kryzhytskiy 1985: 179; Zubar 2001; Magomedov 2020). In European history, this is the height of the Scythian/Gothic wars, when the invasions of the barbarians of the Gothic tribal alliance covered almost all the northern possessions of the Roman Empire, and Roman military garrisons were withdrawn from the cities and fortresses of the Northern Black Sea region to protect the Danube limes (Zubar and Krapivina 1999). Apparently, in connection with these events, the life of ancient Olbia ceases, and at the beginning of the 4th century on its ruins there was established a settlement of the Cherniakhiv culture, which continued to exist in the first decades of the 5th century.

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REFERENCES

- Arsen'eva, T., Kassab Tezgör, D. and Naumenko S. 1997. Un Depotoir D'Atelier D'Amphores a pate Claire. Commerce entre Heraclee du Pont et Tanaïs a l'époque romaine. *Anatolia Antiqua* 5: 187–198.
- Baran, V. D. 1981. *Cherniakhivska kultura. Za materialamy Verkhnoho Dnistra ta Zakhidnoho Buhu*. Kyiv.

- Böttger, B. 1982. Die Gefäßkeramik aus dem Kastel Jatrus. *Jatrus-Krivina* 2: 33–148.
- Buiskikh [Buiskikh], A. V. and Novichenkova, M. V. 2021. The Roman Citadel in Pontic Olbia. *Ancient Civilizations from Scythia to Siberia* 27: 11–67.
- Buiskikh, A. V., Tvardetskyi [Twardecki], A. and Novichenkova, M. 2020. Tsytadel rymskoho chasu v Olvii: rezultaty ukrainsko-polskoho proektu. In Yu. V. Boltryk (ed.), *Arkheolohichni doslidzhennia v Ukraini 2018*, 124–128. Kyiv.
- Demesticha, S. 2003. Amphora production on Cyprus during the Late Roman Period. In Ch. Bakirtzis (ed.), *Actes de VII-e Congrès International sur la Céramique Médiévale en Méditerranée, Thessaloniki, 11-16 Octobre 1999*, 469–476. Athènes.
- Demesticha, S. 2014. Late Roman Amphora Typology in Context. In N. Poulou-Papadimitriou, E. Nodarou and V. Kilikoglou (eds), *LRSW 4. Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean. Archeology and Archaeometry. The Mediterranean: a market without frontiers*, 599–606. Oxford. British Archaeological Reports International Series 2616 (I).
- Diaconu, G. 1965. *Tirgisor necropola din secolele III–IV e. n.* București.
- Diamanti, Ch. 2010. *Local Production and Import of Amphorae at Halasarna of Kos Island (5th–7th c.). Contribution to the Research of the Production and Distribution of the Late Roman / Proto-Byzantine Amphorae of the Eastern Mediterranean.* Athens. Saripolos Library 115.
- Didenko, S. V. 2017. Obshchaya kharakteristika keramicheskoy posudy iz raskopok uchastka “R 23” v 2016 g. In A. V. Buiskikh, A. Tvardetskyi [Twardecki] and M. V. Novichenkova (eds), *Otchet o rabotakh na uchastke R-23 v Olvii v 2016 g. Tom 2*, 23–77. Instytut Arkheologii Nanatsionalnoi Akademii Nauk Ukrainy.
- Didenko, S. V. 2018a. Obshchaya kharakteristika keramicheskoy posudy iz raskopok uchastka “R 23” v 2017 g. In A. V. Buiskikh, A. Tvardetskyi [Twardecki] and M. V. Novichenkova (eds), *Otchet o rabotakh na uchastke R-23 v Olvii v 2017 g. Tom 1*, 258–292. Instytut Arkheologii Nanatsionalnoi Akademii Nauk Ukrainy.
- Didenko, S. V. 2018b. *Antychnyi keramichniy import u Cherniakhivskii Kulturi na terytorii Ukrainy.* Unpublished PhD thesis, Institute of Archaeology of National Academy of Sciences of Ukraine. https://shron1.chtyvo.org.ua/Didenko_Serhii/Antychnyi_keramichniy_import_u_cherniakhivskii_kulturi_na_terytorii_Ukrainy.pdf Last access: 5.06.2024.
- Didenko, S. V. 2019. Obshchaya kharakteristika keramicheskoy posudy iz raskopok uchastka “R 23” v 2018 g. In A. V. Buiskikh, A. Twardeckij [Twardecki] and M. V. Novichenkova (eds), *Otchet o rabotakh na uchastke R-23 v Olvii v 2018 g. Tom 1*, 150–181. Instytut Arkheologii Nanatsionalnoi Akademii Nauk Ukrainy.
- Domžalski, K. 2021. *Pontic Red Slip Ware. Typology, Chronology, and Distribution of a Major Group of Late Roman Fine Pottery in the Black Sea Region.* Warsaw.
- Egloff, M. 1977. *Kellia: la poterie copte; quatre siècles d'artisanat et d'échanges en Basse-Egypte.* Geneve.
- Elton, H. 2005. The Economy of Southern Asia Minor and LR 1 Amphorae. In J. M. Gurt i Esparraguera, J. Buxeda i Garrigos and M. A. Cau Ontiveros (eds), *LRSW 1. Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean. Archeology and Archaeometry*, 691–695. Oxford. British Archaeological Reports International Series 1340.
- Empereur, J.-Y. and Picon, M. 1989. Les régions de production d'amphores imperiales en Méditerranée orientale. In M. Lenoir, D. Manacorda and C. Panella (eds), *Anfore Romane e Storia Economica: un Decennio di Ricerche. Atti del colloquio di Siena (22–24 maggio 1986)*, 223–248. Rome.
- Garlan, Y. and Kassab Tezgör, D. 1996. Prospection d'ateliers d'amphores et de céramiques de Sinope. *Anatolia Antiqua* 4: 325–334.
- Hayes, J. W. 1972. *Late Roman Pottery.* London.

- Kassab Tezgör, D. 2010. Typologie des amphores sinopéennes entre les IIe–IIIe s. et le VIe s. ap. J.-C. *Varia Anatolica* 22: 121–140.
- Krapivina, V. V. and Domzhal'skiy [Domžalski], K. 2008. Pozdneantichnaya Ol'viya v svete nakhodok krasnolakovoy keramiki. In V. Yu. Zuev (ed.), *Bospor i Severnoye Prichernomor'ye v antichnuyu epokhu. Materialy yubileynogo mezhdunarodnogo kruglogo stola, posvyashchennogo 10-letiyu konferentsii "Bosporskiy fenomen"*, 73–81. Saint Petersburg.
- Krapivina, V. V. and Schultze, E. 2011. Grey ware in Olbia and in the Settlements of the *Cherniakhiv culture* in the Lower Bug region. Current state of research and possibilities for further investigation. *Bonner Beiträge zur Vor- und Frühgeschichtlichen Archäologie* 13: 417–428.
- Krapivina, V. V. 2013. Pozdneantichnyy period istorii Ol'vii Pontiyskoy. *Vestnik drevney istorii* 1: 77–94.
- Krapivina, V. V. 2014. *Olviia Pontiiska. Greko-rymskiy ta piznoantychnyi periody*. Kyiv.
- Kravchenko, N. M., Petrauskas, O. V., Shyshkin, R. G. and Petrauskas A. V. 2007. *Pamyatniki arkheologii pozdnerimskogo vremeni Pravoberezhnoy Kievshchiny*. Kyiv.
- Kryzhytskiy [Kryzhitskiy], S. D. 1985. *Ol'viya. Istoriograficheskoe issledovanie arkhitekturno-stroitel'nykh kompleksov*. Kyiv.
- Lyubichev, M. 2019. *Rannyya istoriya dnepro-donetskoj lesostepi I–V vekov*. Kharkiv. Ostrogothica–Serie.
- Magomedov, B. V. 1987. *Chernyakhovskaya kul'tura Severo-Zapadnogo Prichernomor'ya*. Kyiv.
- Magomedov, B. 2001. *Chernyakhovskaya kul'tura. Problema etnosa*. Lublin.
- Magomedov, B. V. 2007. Olviya i varvary v piznoantychnyi period. *Arkheolohiia* 4: 47–54.
- Magomedov, B. V. 2011. Ob amforakh tipa "Delakeu". In O. V. Sharov (ed.), *Peterburgskiy apokrif. Poslanie ot Marka*. Biblioteka Stratum plus, 367–372. Saint Petersburg – Kishinev.
- Magomedov, B. V. 2020. Gorod Ol'viya. Cherniakhovskiy gorizont. Keramika iz fondov Instituta arkheologii NANU. *Stratum plus* 4: 219–226.
- Mitreă, B. and Preda, C. 1966. *Necropole din secolul al IV-lea în Muntenia*. București.
- Mylashevskiy, O. S. 2017. Pivnichno-zakhidnyi komponent Cherniakhivskoi kultury (za materialamy lipnoho posudu). Unpublished PhD thesis, Institute of Archaeology of National Academy of Sciences of Ukraine. https://chtyvo.org.ua/authors/Mylashevskiy_Oleksandr/Pivnichno-zakhidnyi_komponent_cherniakhivskoi_kultury_za_materialamy_lipnoho_posudu/. Last access: 7.07.2024.
- Myts, V. L., Lysenko, A. V., Shchukin, M. B. and Sharov, O. V. 2006. *Chatyr-Dag – nekropol' rimskoy epokhi v Krymu*. Saint Petersburg.
- Opait, A. 2004. *Local and imported ceramics in Roman province of Scythia (4-th – 6-th centuries AD). Aspects of economic life in the Province of Scythia*. Oxford. British Archaeological Reports International Series 1274.
- Pieri, D. 1998. Les Importations d'Amphores Orientales en Gaule Méridionale durant l'Antiquité Tardive et le Haut-Moyen Age (IVe–VIIe siècles après J.-C.). Typologie, Chronologie et Contenu. In L. Rivet (ed.), *Société Française d'Étude de la Céramique Antique en Gaule. Actes du Congrès d'istres 21-24 mai 1998*, 97–106. Bouches-du-Rhône.
- Pieri, D. 2005. *Le commerce du vin oriental à l'époque byzantine (Ve–VIIe siècles). Le témoignage des amphores en Gaule*. Beirut. Bibliothèque Archéologique et Historique 174.
- Pieri, D. 2007. Les centres de production d'amphores en Méditerranée orientale durant l'antiquité tardive: quelques remarques. In M. Bonifay and J.-C. Tréglia (eds), *LRCW 2. Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean. Archaeology and Archaeometry*, 611–625. Oxford. British Archaeological Reports International Series 1662.
- Rikman, E. A. 1967. Chernyakhovskoe poselenie Delakeu (Moldaviya). *Materialy i issledovaniya po arkheologii SSSR* 139: 165–196.
- Riley, J. A. 1979. The Coarse Pottery from Berenice. In J. A. Lloyd (ed.), *Excavations at Sidi Khrebish Benghazi (Berenice)*, 91–497. Tripoli. Libya Antiqua Supplement II.

- Schultze, E., Magomedov, B. V. and Bujskich [Buiskykh], S. B. 2006. Grautonige Keramik des Unteren Buggebietes in römischer Zeit. Nach Materialien der Siedlungen in der Umgebung von Olbia. *Eurasia Antiqua*: 12: 289–352.
- Shelov, D. B. 1978. Uzkogorlye svetloglynyane amfory pervykh vekov nashey ery. Klassifikatsiya i khronologiya. *Kratkie soobshcheniya Instituta arkheologii AN SSSR* 156: 16–21.
- Şovan, O. L. 2009. *Necropola de tip Sântana de Mureş-Cernjachov de la Mihalăşeni (judeţul Botoşani)*. Târgovişte.
- Tvardetskyi [Twardecki], A., Buiskykh, A. V. and Novichenkova, M. V. 2017. Polsko-ukrainska misiia v Olvii: pershi rezultaty novoho doslidnytskoho proiektu. In I. Fornasier, A. Tvardetskyi [Twardecki], D. Braund, A. V. Buiskykh, N. O. Gavrylyuk, M. Matera and I. M. Sheiko (eds), *Pivnichne Prychornomoria za antychnoi doby (na poshanu S. D. Kryzhyskoho)*, 45–52. Kyiv.
- Twardecki, A. 2018. Polish Archaeological Mission “Olbia” of the National Museum in Warsaw. Activity in seasons 2016–2017. In N. O. Gavrylyuk, O. V. Gospodarenko, V. V. Kuzovkov, E. O. Molev, M. V. Novichenkova, N. O. Ryzheva, I. O. Smyrnov, A. Tvardetskyi [Twardecki], O. P. Trygub and V. V. Cherniavskyi (eds), *Olviyskyi forum. Do 150-richchya doslidzhennia Olvii. Materialy II mizhnarodnoi konferentsii Forum Olbicum II, 4–6 travnia 2018 r.*, 56–67. Mykolaiv.
- Twardecki, A. and Buiskykh, A. 2021. The Cherniakhov Culture in Olbia Pontica in the light of Polish-Ukrainian excavations 2016–2018. *Sprawozdania Archeologiczne* 73(2): 251–273.
- Van Alfen, P. 1996. New light on the 7th-c. Yassi-Ada shipwreck: capacities and standard sizes of amphoras. *Journal of Roman Archeology* 9: 189–213.
- Wołagiewicz, R. 1993. *Ceramika kultury wielbarskiej między Bałtykiem a morzem Czarnym*. Szczecin.
- Vnukov, S. Yu. 2006. *Prichernomorskiye amfory I v. do n. e. – II v. n. e. Chast' II: Petrografiya, khronologiya, problemy torgovli*. Saint Petersburg.
- Vnukov, S. Yu. 2016. Eshche raz o tipologii, evolutsii i khronologii svetloglynyanykh (pozdnegerakleyskikh) uzkogorlykh amfor. *Rossiyskaya arheologiya* 2: 36–47.
- Yashna, O. 2018. Amfory z ryflenniam tulubu typu “nabigaiucha khvyliya” z rozkopok Mangup-Kale (Pivdenno-Zakhidnyi Krym). *Istorychna pamiat* 2(39): 8–22.
- Zeest, I. B. 1960. Keramicheskaya tara Bospora. *Materialy i issledovaniya po arkheologii SSSR* 83: 5–177.
- Zubar, V. M. 2001. O zaklyuchitel'nom etape istorii Ol'vii (tret'ya chetvert' III – pervaya polovina IV vv.). *Vestnik drevnei istorii* 1: 132–138.
- Zubar, V. M. and Krapivina, V. V. 1999. O rimskom garnizone Ol'vii v seredine III v. *Vita Antiqua* 2: 76–83.

Glassware from the Excavations at the Sector R-23 of Pontic Olbia

Olga Puklina^a

As part of research on site R-23 of the Roman citadel of Olbia in 2016–2018 and 2021, more than 100 fragments of glass vessels of Roman and Late Roman times have been found. The article analyses the most informative forms and also considers the technological methods for manufacturing vessels. The finds are divided into two chronological groups. The first group are the tableware of the Roman time (1st – the middle of the 3rd centuries), the second group includes vessels of the period of Late Antiquity (4th–5th centuries), which can be correlated with the residential and utility complex of the culture discovered at this site.

KEY-WORDS: Northern Black Sea region, Olbia, Roman period, Late Roman period, glass vessels, Cherniakhiv culture

INTRODUCTION

In the course of research on the site of the Roman citadel of Pontic Olbia, which was carried out as part of a joint Ukrainian-Polish project in 2016–2018 and 2021, more than 100 fragments of glass vessels of the 1st–5th centuries AD were found. Such a wide chronological range is explained by the peculiarities of the stratigraphy of the site with the presence of objects extending into earlier layers. Unfortunately, the finds are highly fragmented, covered with iridescent weathering, as a result of which only a small part of the fragments can be subject to classification (Table 1). At the same time, the technique of their production characterizes almost all technological methods used in glassmaking in Roman and Late Roman times.

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Table 1. List of glass vessels fragments from the excavations at the sector R-23 of Pontic Olbia.

Inv. No.	Name	Chronology	Technological method	Typology (Isings)	Figure
O-2016/R-23/4	Fragment of a bottom of the vessel of miniature form	1st – mid-3rd cent. AD	Mould-blowing	Form 50	Fig. 2:3
O-2016/R-23/65	Fragment of a wall a polished ornament in the form of vertical cutting	Second half of the 2nd – mid-3rd cent. AD	Free-blowing	Form 96 b	Fig. 4:3
O-2016/R-23/82	Fragment of a bowl with ribs	1st–2nd cent. AD	Shaping	Form 3	Fig. 1
O-2016/R-23/116	Fragment of a bottom with protrusions	3rd–6th cent. AD	Free-blowing		Fig. 6:2
O-2016/R-23/187	Fragment of a bottom of the unguentaria	1st–2nd cent. AD	Free-blowing		Fig. 6:4
O-2016/R-23/189	Fragment of a bottom with the remains of stamp in the form of relief with concentric circles arranged one in one	1st – mid-3rd cent. AD	Mould-blowing	Form 50	Fig. 2:4
O-2016/R-23/260	Fragment of a bottom with protrusions	3rd–6th cent. AD	Free-blowing		Fig. 6:3
O-2016/R-23/299	Fragment of a wall with a polished ornament in the form of vertical cutting	Second half of the 2nd – mid-3rd cent. AD	Free-blowing	Form 96 b	Fig. 4:4
O-2017/R-23/87	Fragment a thickened fire-rounded rim	Second half of the 2nd – mid-3rd cent. AD	Free-blowing	Form 85	Fig. 4:1
O-2017/R-23/103	Fragment a thickened fire-rounded rim	Second half of the 2nd – mid-3rd cent. AD	Free-blowing	Form 85	Fig. 4:2
O-2017/R-23/104	Fragment of a bottom with the remains of stamp in the form of a bulging circle	1st – mid-3rd cent. AD	Mould-blowing	Form 50	Fig. 2:2
O-2017/P-23/501	Fragment of a wall with soldered threads	4th cent. AD	Free-blowing		Fig. 7:1

Inv. No.	Name	Chronology	Technological method	Typology (Isings)	Figure
O-2018/R-23/72	Fragment a horizontal rim	1st – mid-3rd cent. AD	Mould-blowing	Form 50	Fig. 2:1
O-2018/R-23/104	Fragment of a wall with a “honeycomb” ornament	4th – the beginning of the 5th cent.	Mould-blowing	Form 107a	Fig. 3:2
O-2018/R-23/169	Fragment of a wall with an oblique oblong drop of blue glass and a belt of five engraved stripes	Late of the 4th – the beginning of the 5th cent.	Free-blowing	Form 96	Fig. 5
O-2018/R-23/445	Fragment of a wall with an expressive teardrop-shaped protrusion	3rd–6th cent. AD	Free-blowing	Form 196b2	Fig. 6:1
O-2021/R-23/31	Fragment of a wall with soldered threads	4th cent. AD	Free-blowing		Fig. 7:1
O-2021/R-23/56	Fragment of a conical foot	Middle – second half of the 4th cent. AD	Free-blowing		Fig. 7:2
O-2021/P-23/580	Fragment of a wall with a “honeycomb” ornament	4th – the beginning of the 5th cent.	Mould-blowing	Form 107a	Fig. 3:1

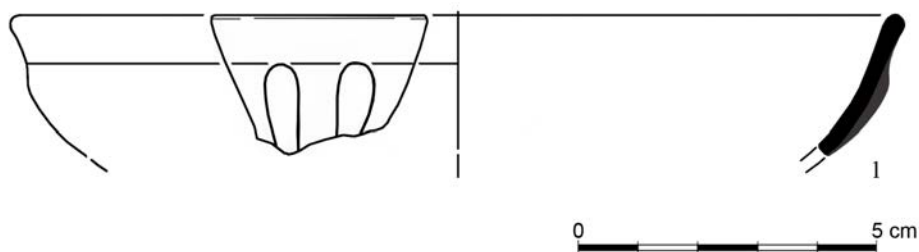


Fig. 1. Glass vessels from sector R-23: ribbed bowl. Drawings: O. Puklina.

SHAPING

Ribbed bowl

Shaped products include a fragment of a bowl with ribs made of transparent glass with a bluish shade (O-2016/R-23/82; Fig. 1). The technique of manufacturing these products involves the shaping of the body and ribs with a special tool for sharpening (Stern and Schilic-Nolte 1994: 72–78; Lierke 1999: 51–55; Taylor and Hill 2003b). This form was one of the most common in Early Roman times. Similar vessels are known on many ancient sites of the 1st century BC–2nd century AD (Isings 1957: 17–19, Form 3; Grose 1989: 244–249; Minchev 1989: pl. 1:1; Cool and Price 1995: 15–19, figs 2.2.–2.7; Lazar 2003: 37, fig. 11:2.1.4; Weinberg and Stern 2009: 33, fig. 3, 4; Chiriac and Boțan 2014: 543, pl. 1; Antonaras 2017: 54–55). Such bowls were widely used outside the Roman Empire (Eggers 1951: 178, Type 182, 183). In the Northern Black Sea region, fragments of them have been found in the urban layers of the first centuries AD of Panticapaeum (Sorokina 1962: 215, fig. 3: 3,4; Golofast 2006: 310, fig. 5:15), Tyras (Saveliev 2017: 124, fig. 3:3–9), Tanais (Yatsenko 2005: 279, abb. 1: 2, kat. 2), in the contexts of the sanctuary at the Gurzufske Sidlo pass (Novichenkova 2015: 97, fig. 198:6, 7), as well as in the Roman fortress near the village of Orlivka in the lower reaches of the Danube (Sorokina 1994: 177, fig. 1:1). Several whole specimens come from the necropolis of Panticapaeum (Kunina and Sorokina 1972: 156, fig. 5:11; Sorokina 1978: 269, fig. 2: 5; Kunina 1997: 268, cat. 93). One bowl is found in Burial 51 at the necropolis of Gorgippia (Aleksееva and Sorokina 2007: 57, fig. 10, pl. 38:4). It should be noted that finds of fragments of such bowls are also known from other parts of Olbia (Sorokina 1962: 217; Krapivina and Buiskykh 2010: 112, fig. 7:1).

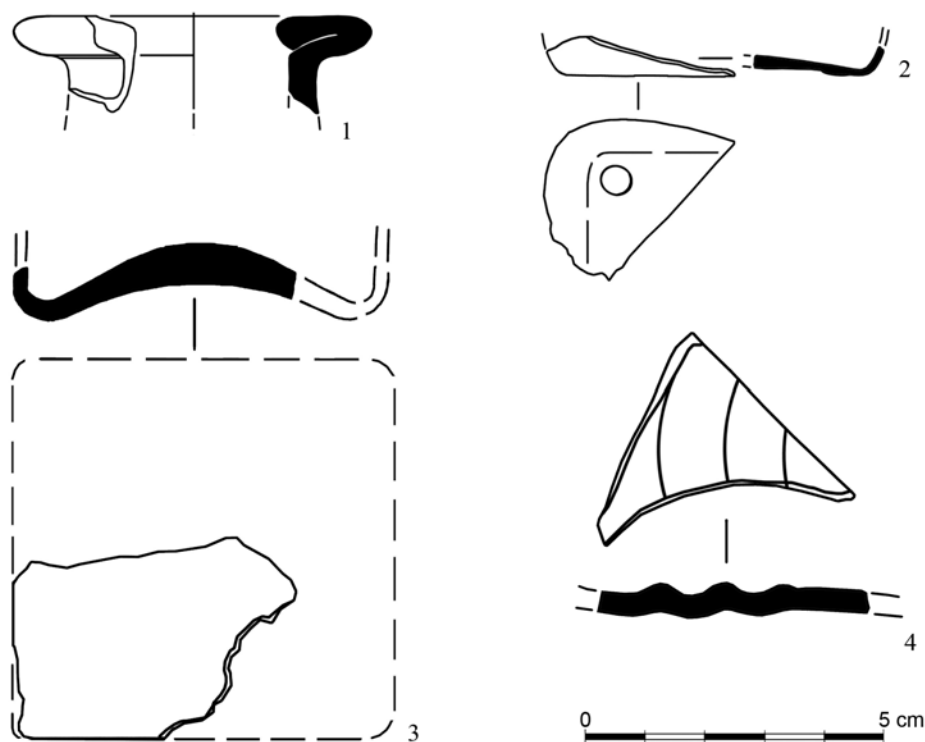


Fig. 2. Glass vessels from sector R-23: square bottles. Drawings: O. Puklina.

MOULD-BLOWING

During research in Trench R-23, several fragments of vessels shaped with the mould-blowing technique were found. These fragments reliably correlate with square-bottomed jugs and glasses decorated with the so-called “honeycomb” ornament.

Square bottles

To this kind of vessels belonged fragments of bottoms with the remains of stamps in the form of a bulging circle (O-2017/R-23/104; Fig. 2:2), as well as in the form of relief with concentric circles arranged one in one (O-2016/R-23/189; Fig. 2:4). For this type of jug is also characteristic a neck with a horizontal rim made of transparent glass with a bluish shade (O-2018/R-23/72; Fig. 2:1). Some fragments belonged to

miniature forms (O-2016/R-23/4; Fig. 2:3). Such vessels are known from many sites of the Early Roman and Late Roman times in the territory of the Roman Empire (Isings 1957: 63–67, Form 50; Goethert-Polaschek 1977: 193, 201, Form 114/119; Minchev 1990: 59, Type I; Cool and Price 1995: 179, figs 11.7–11.12; Dussart 1998: 159, fig. BXL 231, Pl. 47: 5; Weinberg and Stern 2009: 110, fig. 17; Chiriac and Boğan 2014: 547, pl. V; Fünfschilling 2015: 427–428, Form AR 156; Antonaras 2017: 115–117) and beyond (Eggers 1951: 181, Type 244). Their production in different centres of the ancient world is confirmed by the variety of stamps (Aguilar-Tablada and Sánchez de Prado 2006: 177–193; Fadić and Štefanac 2009: 206–210; Pánczél 2011: 175–187). They could be used not only as tableware but also for transporting liquids over long distances (Foy and Nenna 2001: 114). In Pompeii, in the house of Menander, such jugs were found stored in two boxes, which made it possible to assume their use as transport vessels (Isings 1957: 63).

Square-bottomed jugs with or without stamps are well known on ancient sites of the Northern Black Sea region: in Panticapaeum (Sorokina 1962: 222, fig. 6: 7; Sorokina 1965: 230, fig. 12: 15–20; Kunina and Sorokina 1972: fig. 7: 23; Kunina 1997: cat. 165–169); Tanais (Sorokina 1965: 230–231, fig. 12: 9–14; Yatsenko 2005: 297–299, abb. 8, cat. 97–103), Gorgippia (Aleksieva and Sorokina 2007: 74–75, pl. 54: 2–4), Kepoi (Sorokina 1977: 124), Chersonesos (Sorokina and Gushchina 1980: 95), Tyras (Son 1988: fig. 4: 2, 3, type 2), Olbia (Sorokina 1965: 229, fig. 12: 4–8), at the Kozyrka settlement (Burakov 1976: 119–120, pl. 12: 35). In addition, finds of such vessels have been recorded on some barbarian sites from Roman period in the region (Rikman 1975: fig. 8: 3; Sorokina and Gushchina: 1980: fig. 2:6; Strzheletskiy *et al.*, 2003–2004: Pl. XXVIII: 30, 31). The time of their appearance in the Northern Black Sea region is considered for the first half of the 1st century (Kunina and Sorokina 1972: 156, fig. 5: 27, 28). One of the earliest items was discovered in Tomb 28 in the Panticapaeum necropolis, where it was accompanied by a coin from 14–9 BC (Sorokina 1965: 228). Vessels from other complexes of this necropolis can be dated to the 1st century (Sorokina 1978: 269, fig. 1: 11; Kunina 1997: cat. 163, 164). To the 1st century belong whole forms from the grave at the Cape Tuzla (Sorokina 1957: pl. 12: 3, 4). The upper part of the jug, found at the necropolis of Kepoi, belonging to the type with a square body is recorded among the materials dated for the middle of the 1st century (Sorokina 1977: 124). Two jugs (one of them with a stamp) come from burials from the necropolis of Nymphaeum dated to the end of the 1st–the first half of the 2nd century (Kunina 1982: 119–124). One example with a stamp was part of the inventory of Grave 74 found in Bel’bek dated to the first half of the 2nd century (Sorokina and Gushchina: 1980: 94–95, figs 2, 6). Vessels from Graves 60 and 104 from the cemetery discovered at “Sovkhoz 10” were, according to the accompanying inventory, date to the 2nd century. (Strzheletskiy *et al.*, 2003–2004: 123–124,

pl. XXVIII: 30, 31, Type IX: 3). A jug with a stamp was found also in a Sarmatian burial of the 2nd century, at Pervomaevsk (Rikman 1975: 20–21, fig. 8: 3; Dzigovskiy and Ostroverkhov 2000: 153–156). Their finds from the necropolis of Tanais are mainly associated with complexes from the 2nd–mid-3rd centuries (Yatsenko 2005: cat. 97–103). Thus, the most reasonable date for the arrival of vessels with a square body in the North Pontic region is the 1st–mid-3rd centuries AD.

Attempts to systematize the stamps on square-body vessels from the Northern Black Sea region were made by Nina Sorokina (1965: 228–231, fig. 12) and Stanislav Shabanov (2017: 88–104). It is believed that such products came from workshops in Asia Minor, Syrian and Western Europe. At the same time, the vessels from Asia Minor prevailed in the Bosphorus, while mainly those of Mediterranean production are found in the Chersonesos (Sorokina and Gushchina: 1980: 94). According to Nina Sorokina (1965: 229), they could have come to Olbia via Dacia from the workshops in Gaul and the Rhine Valley.

Beakers with honeycomb pattern

Fragments of beakers made of transparent colourless glass with a so-called “honeycomb” ornament come from Trench R-23 (O-2021/P-23/580, O-2018/R-23/104; Fig. 3). On two fragments are preserved relief channels, which could be located in the upper part of the glasses. Vessels with such ornamentation are known from many sites from the Western Mediterranean to the Eastern Black Sea region dated to the 4th–5th centuries (Harden 1936: 165, pl. XVI: 472; Isings 1957: 133, Form 107a; Goethert-Polaschek 1977, Form 50; Doppelfeld 1966: 45, taf. 56, Gruppe 3.4; Barkóczy 1988: 95, Typ 65, taf. XIII:140–142, Fünfschilling 2015: 343, Form AR 66.6; Antonaras 2017: 64). They could have been produced in different workshops of the ancient world (Fremersdorf 1961: 57–58, taf. 113; Whitehouse 2001: 111–115, cat. 606–611).

In the North Pontic region, fragments of such beakers were recorded during excavations at Phanagoria (Golofast and Ol'khovskiy 2019: 51), in the layers of the Late Antiquity period of Chersonesos (Sorokina 1973: 187, fig. 2: 13, Golofast 2001: 126–127, fig. 81, 19, Type 1), Panticapaeum (Sorokina 1962: 231; fig. 11:5, 13:5), Tanais (Yatsenko 2007:478), KYTEION (Molev 2004:411, pl. II: 23). Whole forms come from the Panticapaeum necropolis (Sorokina 1973, fig. 2: 14; 1978: fig. 3:8), as well as from a number of barbarian burials in Crimea and the North Caucasus dated to the Late Roman period. It is the materials of the Crimean and Caucasian complexes that make it possible to reliably determine the chronology of the beakers with a “honeycomb” ornament in the Pontic region. In Grave 254 at “Sovkhoz 10” such a vessel was found with beads and red-slip vessels from the 4th–early 5th centuries (Sorokina 1973: 186–187, fig. 2: 11; Strzheletskiy *et al.*, 2003–2004: 123, pl. XXVIII: 15, Type VIII: 15; Ivanova 2009: 33). In a barbarian

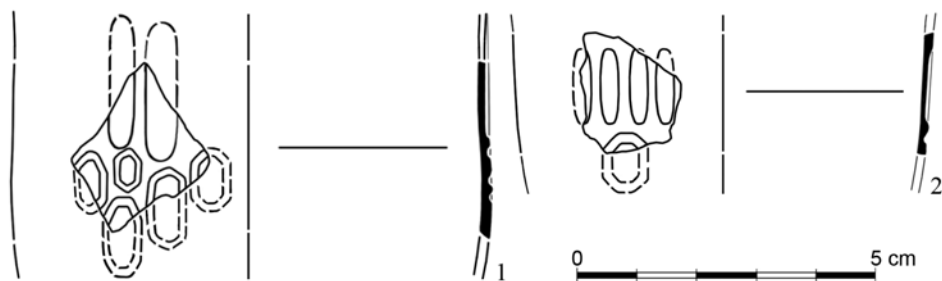


Fig. 3. Glass vessel from sector R-23: beakers with a honeycomb pattern. Drawings: O. Puklina.

burial near the Roman fortress of Kharaks (Grave 29), a glass with a “honeycomb” ornament, presumably of Mediterranean production, was accompanied by two coins of Rhescuperides VII (320–325; Sorokina 1973: 186, 188; Gey and Bazhan 1997: Pl. 33:12). A glass vessel from Grave 30 at the Suvorovo cemetery has a similar decoration, which Vladislav Yurochkin and Aleksandr Trufanov referred to Phase III (second–third quarters of the 4th century) according to the chronology of the third and fourth centuries AD burials from Central and South-Western Crimea (Yurochkin and Trufanov 2007: 368, fig. 6: 16). Another vessel comes from the burial of the 1st grave in the 11th burial complex at Aloniya, which is dated from the end of the 4th to the beginning of the 5th centuries (Turova and Chernysh 2015: 139, fig. 16: 181). N. Sorokina, based on the materials from the burial complexes in the valley of the River Tsebelda, identified beakers with such ornamentation as a second group, dated to the 4th–early 5th centuries (Sorokina 1979: 63, fig. 1: 6). S. Shabanov dates these vessels, from the Northern Black Sea region and the Caucasus, in approximately the same way, identifying them as the variant 2 of glass beakers with a “honeycomb” ornament and dating to the Late Roman period (2019: 316).

FREE-BLOWING

The largest number of glassware fragments excavated from Trench R-23 came from free-blown tableware vessels (bowls, beakers, jugs, dishes, plates) and containers for toiletries (unguentaria). The use of a blowpipe is marked by feet with traces of pontils.

Cups with fire-rounded rim

One of the most common categories of tableware are drinking vessels. In Olbia, they are represented by different types.

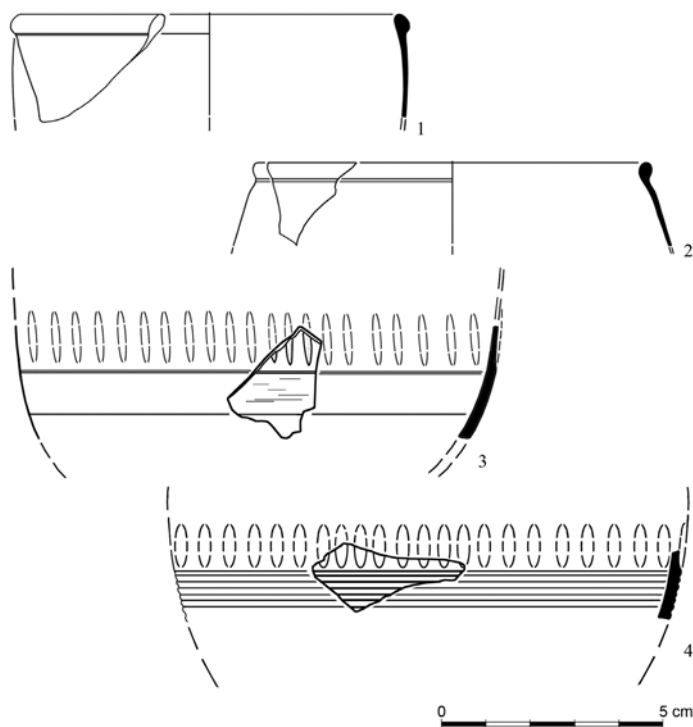


Fig. 4. Glass vessels from sector R-23: 1–2 – cups with fire-rounded rim; 3–4 – bowls with facet-cutting. Drawings: O. Puklina.

During the excavations of the Olbian settlement, fragments of thin-walled bowls with a thickened fire-rounded rim of transparent colourless glass are often found (O-2017/R-23/87, 103; Fig. 4:1, 2). Similar bowls are widely known in the western provinces and are found at many sites dated to the second half of the 2nd–3rd centuries (Isings 1957: 101–103, Form 85; Goethert-Polaschek 1977: 48, Form 47a; Arveiller-Dulong and Nenna 2005: 331, cat. 935; Fünfschilling 2015: 372–373, Form AR 98.1). In the territory of the Northern Black Sea region, they are also recorded in Tanais (Sorokina 1965: fig. 8:4), Gorgippia (Aleksieva and Sorokina 2007: 26, pl. 23:6, 7), Grave 14 of the late-Scythian cemetery Bel'bek II (Sorokina and Gushchina 1980: 96–97, fig. 2:1).

Bowls with facet-cutting

From Trench R-23 there are fragments of two bowls of transparent glass with a polished ornament in the form of vertical cutting and a belt ornament of horizontal

lines (O-2016/R-23/65, O-2016/R-23/299; Fig. 4:3, 4). In the oriental workshops of the Roman Empire, bowls with engraved lines, cutting and polished facets in the form of circles and ovals were produced during the second half of the 2nd–mid-3rd centuries (Clairmont 1963: 65–68, figs 2, 3; Weinberg and Stern 2009: 96). In the western provinces, the tradition of making such vessels existed from the middle of the 2nd to the end of the 4th centuries (Fremersdorf 1939: 6; Barkóczy 1986: 166–189, Yatsenko 2006: 134; Weinberg and Stern 2009: 95). Bowls with engraved and polished decoration were widespread not only in the territory of the Roman Empire (Isings 1957: 114–116, Form 96 b; Barkóczy 1988: 64, taf. IV: 39, 41–43; Rütli 1991: 271; Cool and Price 1995: 76–78, fig. 5.8; Lierke 1999: 107–109, abb. 273; Lazar 2003: 83, fig. 30: 2.6.2; Weinberg and Stern 2009: 96, fig. 13, Pl. 19), but also beyond (Eggers 1951: 180, Typ 216).

In the materials of ancient archaeological sites of the Northern Black Sea region, such bowls are associated with the contexts of Roman times. Fragmentary finds come from Tyras (Son 1988: 49–50, figs 2:3, 4, 6, 7; 3:7), Panticapaeum (Vysotska 1964: 17; Golofast 2006: 312, fig. 3:2), Chersonesos and the ancient settlement at Alma-Kermen (Vysotska 1964: 16–17, fig. 9: 30, 31). Two items are found in House 30 in Gorgippia (Aleksieva and Sorokina 2007: 27). Two more phialai were found in the burials of the necropolis at Tanais. However, the largest number (more than 200 fragments) was found during the excavations of residential and commercial complexes of Tanais, which allowed Elena Yatsenko to create a detailed typology of these vessels based on the materials obtained at this site and she dates them to the second half of the 2nd–mid-3rd centuries (Yatsenko 2006). According to this typology, the bowl fragments from the R-23 trench belong to the group V, scheme D (Yatsenko 2006: 133, Pl. VI: 59, 60) and have analogies from the glassmaking workshops of the Rhine Valley (Fremersdorf 1967: taf. 38). It should also be noted that the use of such phialai in the Northern Black Sea region is most likely associated with the presence of Roman military contingents. In particular, in Olbia, the finds concentrated in areas where soldiers of the Roman garrison were probably stationed (Sorokina 1982: 41; Puklina 2018: 75).

Cup with glass drop

They are defined by a wall of transparent colourless glass with an oblique oblong drop of blue glass and a belt of five engraved stripes (O-2018/R-23/169; Fig. 5).

Vessels of various shapes with a decoration of coloured glass drops were widespread in the ancient world during the 3rd–5th centuries and were typical products of both Western and Eastern workshops (Isings 1957: 113–114, Form 96; Goethert-Polaschek 1977, taf. 39, 41, 42; Barkóczy 1988: 96, Typ 67, taf. XIII, XIV; Weinberg and Goldstein 1988: 87–91; Fünfschilling 2015: Form AR 65, 66.2).

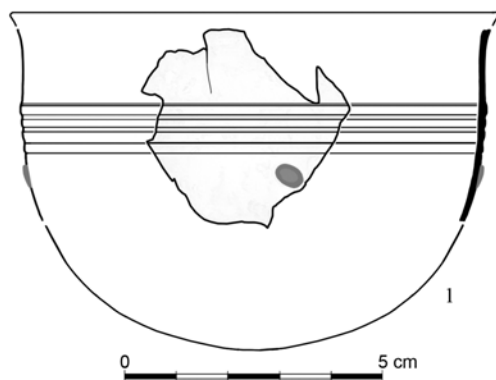


Fig. 5. Glass vessel from sector R-23: cup with glass drop. Drawings: O. Puklina.

On the territory of the Northern Black Sea region, their finds are known from Olbia (Sorokina 1976: 204–206; 1978: 273, fig. 3: 10, Poliszczuk 2006: 352, kat. 27), Chersonesos (Golofast 2001: 125–126), Panticapaeum (Sorokina 1978: 271, fig. 3: 4, 5), Phanagoria (Golofast and Ol'khovskiy 2019: 50), Kyteion (Molev 2004: 410), as well from some funerary complexes of the Cherniakhiv culture (Symonovich 1964: fig. 1:1; Lyubichev *et al.*, 2019: fig. 4:8) and the barbarian burials at Crimea (Sorokina 1973: 183, fig. 1; Shabanov 2011b: 151).

A fragment from the excavations at Trench R-23 belongs to a hemispherical bowl-phiale. Studying vessels with drops of blue glass, Sorokina separated such vessels type into variant Zh (Ж) type 1, mentioning that they are not characteristic for ancient sites of the Northern Black Sea region (Sorokina 1971: 90, fig.1:7). Two such phialai come from the burials of the Cherniakhiv culture, at Zhuravka Vilshanska, Grave 14 (Symonovich 1964: 9, fig. 1:1); Viitenky-1, Grave 102 (Lyubichev *et al.*, 2019: 17, fig. 4:8). In the system of relative chronology of the Cherniakhiv culture, developed by Evhenii Gorokhovskiy, the bowl from Zhuravka belongs to one of the chronoindicators of the final (fifth) phase of the Cherniakhiv culture, which correlates with the last quarter of the 4th–the first third of the 5th centuries (Gorokhovskiy 1988: 45). Similarly dated bowl from the Viitenky-1 cemetery's the chronoindicator (XII 04) of the last phase of the Cherniakhiv culture of the Dnipro-Donets forest-steppe (Lyubichev *et al.*, 2019: 37). Another fragment of such a vessel is found in a layer of the same burial (Shchepachenko 2022: 139). A certain amount of clarity in the question of the time of existence of such phials is also provided by the context of the discovery of a fragment from the R-23 trench, where we have an excellent opportunity to study in detail the stratigraphic situation from the level of the modern-day surface. The horizon

of the Late Antiquity period lies here almost under the humus layer. A fragment of phiale comes from Recess 3, of which *terminus post quem* mark items from the Pit 1 found immediately below it. Judging by the fragments of ceramic vessels found in it, belonging to the late subtypes of amphorae of the Shelov F type (350–370s), amphorae of the Shelov E type (the last quarter of the 4th–mid-5th centuries), Zeest 100/C Snp I (second half of the 4th–5th centuries), LRA 1 (late 4th–7th centuries), the period of its use falls on the last third of the 4th–first half of the 5th centuries. (Didenko 2019: 160). Therefore, Recess 3, in which the fragment of a glass vessel was found, should be dated no earlier than the end of the 4th century. It should be noted that both of these facilities are part of a housing complex that is related to the Cherniakhiv culture (Twardecki and Buiskykh 2021).

Hemispherical phiale-bowls made of transparent colourless glass with a decoration of coloured drops are typical products of the Rhine workshops. The centre of their production may well have been the Cologne (Colonia Agrippinensis) workshop (Harden 1987: 115, cat. 48), whose products are distinguished by a variety of forms (Fremersdorf 1962). The possibility of the arrival of Cologne-made products to the North Pontic region in Late Antiquity is confirmed by the finds of several more vessels with coloured drops from a number of funerary complexes of the 4th and early 5th centuries: the Neizats cemetery (Crimea), Crypt 321 (Shabanov 2011a: 423); the Cherniakhiv culture cemetery in Shyshaky (Poltava region) – Burials 112, 115 (Reida *et al.*, 2016: 24–27; 2021: fig. 3).

Vessel with pinches

Among the fragments of dishes made using the free-blowing technique found in Trench R-23, there is a fragment of the wall of a vessel of a bluish hue, decorated with an expressive teardrop-shaped protrusion (O-2018/R-23/445; Fig. 6:1). The fashion for this specific ornamentation appears in the middle of the 2nd century and survives until the 6th century (Antonaras 2017: 136, 178, cat. 125, 129). Teardrop-shaped protrusions decorated different forms of glassware. Their finds are known throughout the Roman Empire (Isings 1957: 116, Form 196b2; Barkóczy 1988: taf. LXXV: 133, taf. LXXXVII: 341, Rütli 1991: 70, 274, taf. 62, Form AR 60.3; Bonnet Borel 1997: 33, Form 65). In particular, since the 3rd century AD, in the Syro-Palestine region and in the northwestern provinces, cups and flasks decorated in this way were especially popular (Fremersdorf and Polónyi-Fremersdorf 1984: cat. 67, 68, 152, 153; Dussart 1998: 162, fig. BXII. 214, pl. 49: 7; Whitehouse 2001: cat. 663).

Vessels with base ring of pinched-out toes

A different kind of table vessel is represented by fragments of vessel bases made of transparent glass with protrusions (O-2016/R-23/116, O-2016/R-23/260,

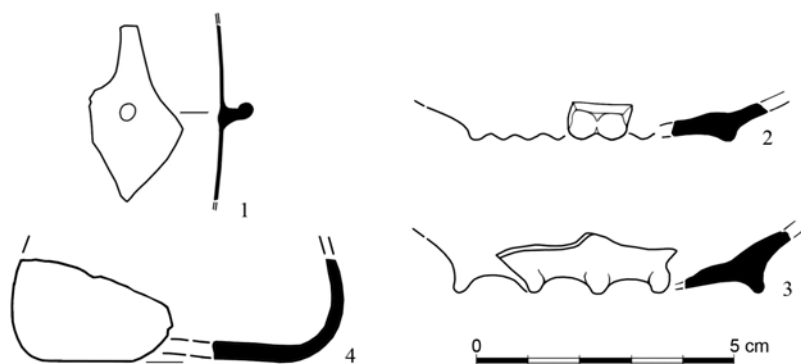


Fig. 6. Glass vessels from sector R-23: 1 – vessel with pinches; 2–3 – vessels with base ring of pinched-out toes; 4 – unguentarium. Drawings: O. Puklina.

Fig. 6:2–3). Vessels with a similar base design found in the western provinces of the Empire are considered Mediterranean imports (Arveiller-Dulong and Nenna 2005: 436, cat. 1211; Fünfschilling 2015: 357, Form AR 198). In addition, this kind of vessels appeared in Egypt (Kucharczyk 2010: figs 1:8–10; 2:4), Greece (Weinberg and Stern 2009: pl. 23: 264–268), Italy (Penn 2018: no. 28), Pannonia (Barkóczy 1988: taf. XII: 130), in the Middle East (Clairmont 1963: 52, pl. V: 204, 207, 208, pl. VI: 211; Jackson-Tal 2016: fig. 37.3:3), in Crimea (Vinokurov 2014: fig. 226:14; Shabanov 2020: fig.2:1). Their chronology is fairly broad. A fragment of such a base was discovered in Tomb 58 (Stone Crypt 4) / 2002 at the necropolis of the Artesian settlement in the Crimean Azov Sea region and is dated to the 2nd–3rd centuries (Vinokurov 2014: 58, fig. 226:14). Renata Kucharczyk dates finds from House 1 in Marina El-Alamein (Egypt) to the 3rd–4th centuries AD (Kucharczyk 2010: 117, 119, figs 1:8–10; 2:4). László Barkóczy dates the vessels from several sites in Pannonia to the end of the 3rd century (1988: 91, Typ 59, taf. XII: 130). Fragments of a glass with such a base come from Grave 124 from the Late Roman time and discovered at the Opushki in Crimea (Shabanov 2020: 114, fig.2:1). In the Athenian Agora, bases with protrusions have been known since the middle of the 3rd century, but most of them belong to Late Roman contexts of the 5th and 6th centuries (Weinberg and Stern 2009: 108, pl. 23: 264–268). Thus, the production of vessels with bases finished with such protrusions, most likely falls in the 3rd–6th centuries.

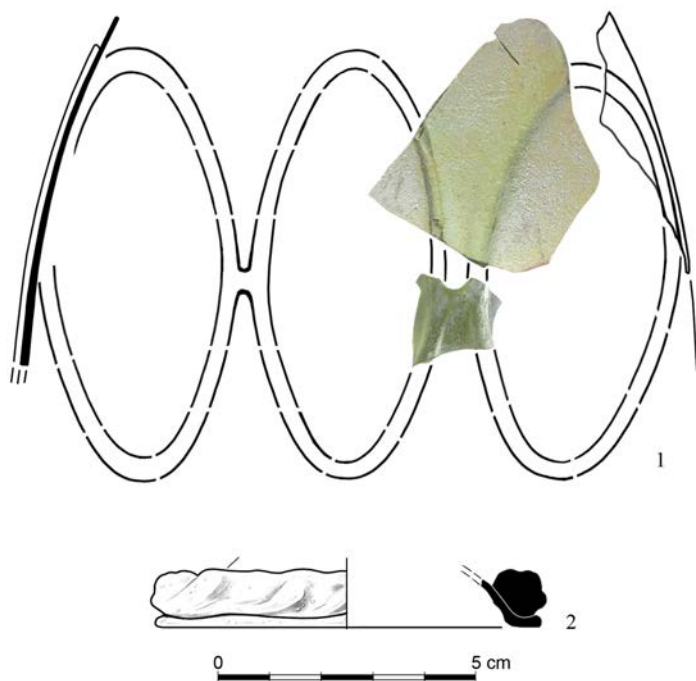


Fig. 7. Glass vessels from sector R-23: jugs. Drawings and photo: O. Puklina.

Unguentaria

Toiletry utensils are represented by the bottom of an unguentarium (O-2016/R-23/187; Fig. 6:4). Similar vessels were produced in the 1st–2nd centuries AD and are widely known throughout the Roman Empire, including Olbia (Kozub 1986: 41–52).

Jugs

As jugs one may identify wall fragments with trailed threads made of transparent glass with a greenish shade (O-2021/R-23/31, O-2017/P-23/501; Fig. 7:1). Similar ornamentation is found on the 4th century jugs from Syro-Palestinian workshops (Harden 1987: 148, kat. 76; Whitehouse 2001: 178–180, cat. 718–719). In the territory of the Northern Black Sea region, they have been found in burials of the 4th century in the Panticapaeum necropolis (Kunina 1997: 331, cat. 393–394; Arveiller-Dulong and Nenna 2005: 458, kat. 1284).

The fragment of a conical foot made of clear green glass, which perhaps may also belong to a jug, is a rare find (O-2021/R-23/56; Fig. 7:2). A massive applied strip with a wavy relief is placed on the foot. The closest analogy in the Northern Black Sea region is the jug on the same kind of foot from the children's burial of Crypt 2(7) from the Chorna Richka cemetery (Babenchikov 1963: 116–117, fig. 21; Shabanov 2013: 157, fig. 1:4). According to the red-slip vessels, the grave can be dated no earlier than the middle of the 4th century (Ivanova 2009: 34). A foot of a jug with a similar decoration dated to the middle to the second half of the 4th century was found in the Roman necropolis of Mayenne (Haberey 1942: 284, pl. 36; Harden 1987: 144–145, cat. 72).

CONCLUSIONS

The finds of glassware from the excavations in Trench R-23 in 2016–2018 and 2021 are quite clearly divided into two chronological groups. The first group consists of dishes of the Roman period (1st–mid-3rd centuries, the second comprises vessels of Late Antiquity (4th–5th centuries). The majority of the finds belong to the first group. These are fragments of unguentaria, jugs with a square bottom, bowls with ribs and bowls with polished ornaments. Their origin from different glassmaking workshops illustrates the active trade relations of the Olbian settlement in the Roman period. Most likely, fragments of vessels with decoration in the form of teardrop-shaped protrusions and vessels with protrusions on the bottoms should also be attributed to the Roman period. The second chronological group includes fragments of phialai with drops of blue glass of Cologne production, glass beakers with “honeycomb” ornaments, jugs with embossed foot and trailed thread decoration. The products of this group are directly related to the ‘post-Antiquity’ horizon of Olbia and are associated with the contexts of the residential and manufacturing complex found here, which correlates with the presence of the Cherniakhiv culture.

REFERENCES

- Aguilar-Tablada, M. and Sánchez de Prado, M. 2006. Evidencias de un taller de vidrio en la ciudad de Augustobriga (Talavera la Vieja, Cáceres). *Lucentum* 25: 177–193.
- Alekseeva, E. M. and Sorokina, N. P. 2007. *Kollektsiya stekla antichnoy Gorgippii (I–III vv.)*. Moskva.
- Antonaras, A. 2017. *Glassware and Glassworking in Thessaloniki: 1st Century BC–6th Century AD*. Oxford.
- Arveiller-Dulong, V. and Nenna, M.-D. 2005. *Les verres antiques du Musée du Louvre II*. Paris.
- Babenchikov, V. P. 1963. Chornorichenskyi mohylnyk. *Arkheolohichni pamiatky URSS* 13: 90–123.

- Barkóczi, L. 1986. Geschliffene Gläser aus der ersten Hälfte des 3. Jhs. in Pannonien. *Archaeologiai értesítő* 113: 166–189.
- Barkóczi, L. 1988. *Pannonische Glasfunde in Ungarn*. Budapest. Studia Archaeologica IX.
- Bonnet Borel, F. 1997. *Le verre d'époque romaine à Avencher-Aventicum. Typologie Générale*. Avencher. Documents du Musée romain d'Avencher 3.
- Burakov, A. V. 1976. *Kozyrskoe gorodishche rubezha i pervykh stoletiy nashey ery*. Kyiv.
- Chiriac, C. and Boțan, S. 2014. Roman Glass Vessels in the Western Pontic Area (1st–3rd Centuries CE). General Remarks. *Pontica et Mediterranea* 3: 525–553.
- Clairmont, Ch. W. 1963. The glass vessels. In *Excavations at Dura-Europos. Final Report IV, part V*. New Haven.
- Cool, H. E. M. and Price, J. 1995. *Roman vessel glass from excavations in Colchester, 1971–85*. Colchester. Colchester Archaeological Report 8.
- Didenko, S. V. 2019. Obshchaya kharakteristika keramicheskoy posudy iz raskopok uchastka “R 23” v 2018 g (unpublished). In A.V. Buislykh, A. Tvardetskiy [Twardecki] and M.V. Novichenkova (eds), *Orchet o rabotakh na uchastke R-23 v Ol'vii v 2018 g. Tom 1*, 150–181. Kyiv. Institut arkhеolohii Natsionalnoi akademii nauk Ukrainy.
- Doppelfeld, O. 1966. *Römisches und Fränkisches Glas in Köln*. Köln.
- Dussart, O. 1998. *Le verre en Jordanie et en Syrie du Sud*. Beyrouth. Bibliothèque archéologique et historique 152.
- Dzigovskiy, A. N. and Ostroverkhov, A. S. 2000. *Steklyannaya posuda kak istoricheskoe yavlenie v pamyatnikakh skifo-sarmatskogo vremeni Ukrainy, Moldovy i rossiyskogo Podon'ya*. Odesa.
- Eggers, H.-J. 1951. *Der römische Import im freien Germanien. Atlas der Urgeschichte I*. Hamburg.
- Fadić, I. and Štefanac, B. 2009. Workshop stamps on square bottles from the Zadar region. In D. Ignatiadou and A. Antonaras (eds), *Annales du 18e Congrès de l'Association Internationale pour l'Histoire du Verre*, 206–210. Thessaloniki.
- Foy, D. and Nenna, M.-D. 2001. *Tout feu, tout sable. Mille ans de verre antique dans le Midi de la France*. Aix-en-Provence.
- Fremersdorf, F. 1939. *Erzeugnisse Kölner Manufakturen in den Funden von Kastell Saalburg und Zugmantel*. Saalburg. Saalburg Jahrbuch IX.
- Fremersdorf, F. 1961. *Im Auftrag der Archäologischen Gesellschaft und des Römisch-Germanischen Museums Köln*. Köln. Die Denkmäler des römischen Köln. Band VI.
- Fremersdorf, F. 1962. *Die römischen Gläser mit aufgelegten Nuppen*. Köln. Die Denkmäler des römischen Köln. Band VII.
- Fremersdorf, F. 1967. *Die römischen Gläser mit Schliff, Bemalung und Goldauflagen aus Köln*. Köln. Die Denkmäler des römischen Köln. Band VIII.
- Fremersdorf, F. and Polónyi-Fremersdorf, E. 1984. *Die Farblosen Gläser der Frühzeit in Köln 2. und 3. Jahrhundert*. Köln. Die Denkmäler des römischen Köln. Band IX.
- Fünfschilling, S. 2015. *Die römischen Gläser aus Augst und Kaiseraugst. Kommentierter Formenkatalog und ausgewählte Neufunde 1981–2010 aus Augusta Raurica. Text und Formenkatalog*. Augst. Forschungen in Augst 51.
- Gey, O. A. and Bazhan, I. A. 1997. *Khronologiya epokhi „gotskikh pokhodov“ na territorii Vostochnoy Evropy i Kavkaza*. Moskva.
- Goethert-Polaschek, K. 1977. *Katalog der römischen Gläser des Rheinischen Landesmuseums Trier*. Mainz am Rhein. Trierer Grabungen und Forschungen 9.
- Golofast, L. A. 2001. *Steklo rannevizantiyskogo Khersonesa. Materialy po arkheologii, istorii i etnografii Kryma* 8: 97–260.

- Golofast, L. A. 2006. Steklo iz raskopok zol'nika rimskogo vremeni u podnozhia gory Mitridat v Kerchi. *Bosporskie issledovaniya* 11: 309–330.
- Golofast, L. A. and Ol'khovskiy, S. V. 2019. Kompleks stekla iz podvodnogo fundamenta v akvatorii Fanagorii. *Hypanis. Trudy otdela klassicheskoy arkheologii IA RAN* 1: 43–72.
- Gorokhovskiy, E. L. 1988. Khronologiya chernyakhovskikh mogil'nikov Lesostepnoy Ukrainy. In B.A. Rybakov (ed.), *Trudy V Mezhdunarodnogo kongressa arkheologov-slavistov* 4: 34–46.
- Grose, D. F. 1989. *Early Ancient Glass: Core-Formed, Rod-Formed and Cast Vessels and Objects from the Late Bronze Age to the Early Roman Empire, 1600 B.C. to A.D. 50*. New-York.
- Haberey, W. 1942. Spätantike Gläser aus Gräbern von Mayen. *Bonner Jahrbücher* 147: 249–284.
- Harden, D. 1936. *Roman Glass from Karanis found by the University of Michigan Archaeological Expedition in Egypt, 1924–29*. Michigan.
- Harden, D. 1987. *Glas der Caesaren*. Milano.
- Isings, C. 1957. *Roman Glass from Dated Finds*. Groningen, Djakarta.
- Ivanova, O. S. 2009. Krasnolakovaya keramika iz raskopok mogil'nika v balke Almalyk-dere (Mangup). *Materialy po arkheologii, istorii i etnografii Tavrii* 15: 6–88.
- Jackson-Tal, R. E. 2016. Glass Finds. In O. Lipschits (ed.), *Ramat Rahel III. Final Publication of Yohanan Aharoni's Excavations (1954, 1959–1962)* II, 567–587. Winona Lake.
- Kozub, Yu. I. 1986. Steklyannye bal'zamarii iz nekropolya Ol'vii. In V. A. Anokhin, V. M. Zubar and A. S. Rusyaeva (eds), *Antichnaya kul'tura Severnogo Prichernomor'ya v pervye veka nashey ery*, 41–52. Kyiv.
- Krapivina, V. V. and Buislykh, A. V. 2010. Osnovnye itogi rabot na uchastke R-25 v Ol'vii v 2007–2008 gg. *SYMBOAA* 1: 108–117.
- Kucharczyk, R. 2010. Glass from Houses 1 and 2 in Marina El-Alamein. *Polish Archaeology in Mediterranean* 19: 114–130.
- Kunina, N. Z. 1982. Dva steklannykh kuvshina iz nekropolya Nimfeya: In S. P. Boriskovskaya (ed.), *Khudozhestvennye izdeliya antichnykh masterov*, 119–124. Leningrad.
- Kunina, N. Z. 1997. *Antichnoe steklo v sobranii Ermitazha*. Saint Petersburg.
- Kunina, N. Z. and Sorokina, N. P. 1972. Steklyannye bal'zamarii Bospora. *Trudy Gosudarstvennogo Ermitazha* 13: 146–177.
- Lazar, E. 2003. *The Roman glass of Slovenia*. Ljubljana.
- Lierke, R. 1999. *Antike Glastöpferei: ein vergessenes Kapitel der Glasgeschichte*. Mainz am Rhein.
- Lyubichev, M. V., Shul'tse, E. and Gella E. I. 2019. Pozdnie pogrebeniya mogil'nika Voytenki i poslednyaya faza chernyakhovskoy kul'tury v lesostepi mezhdru Dneprom i Severskim Dontsom. *OIUM* 6: 13–49.
- Minchev, A. 1989. Antichno staklo ot Zapadnoto Chernomorie (I–VI v.). III. Kani. *Izvestia na Narodnia muzey Varna* 25(40): 13–26.
- Minchev, A. 1990. Antichno staklo ot Zapadnoto Chernomorie (I–VI v.). IV. Butilki. *Izvestia na Narodnia muzey Varna* 26(41): 56–78.
- Molev, E. A. 2004. Fragmenty steklyannykh sosudov iz raskopok Kiteya. *Bosporskie issledovaniya* 5: 405–421.
- Novichenkova, N. G. 2015. *Gornyy Krym: II v. do n. e. – II v. n. e. Po materialam raskopok svyatilischa u perevala Gurzufskoe Sedlo*. Simferopol.
- Pánczél, S. P. 2011. The Production of Prismatic Glass Bottles in Roman Apulum. *Marisia* 31: 175–187.
- Penn, T. M. 2018. Post-AD 79 Roman Glass from Campania: the assemblage from the villa baths at Masseria De Carolis (Pollena Trocchia). A preliminary Report. *Rivista di Studi Pompeiani* 29: 220–224.

- Poliszczuk, L. U. 2006. Szkło starożytne. In J. Bodzek (ed.), *Skarby znad morza czarnego. Złoto, rzeźba, ceramika z Muzeum Archeologicznego w Odessie. Katalog wystawy w Muzeum Narodowym w Krakowie (marzec–czerwiec 2006)*, 336–353. Kraków.
- Puklina, O. O. 2018. Skliani fiali rimskoho chasu z Ol'vii. *Arkheolohiia i davnia istoriia Ukrainy* 28(3): 68–77.
- Reida, R. M., Heiko, A. V. and Sapehin, S. V. 2016. Pokhovannia 115 Shyshatskoho mohyl'nyka zi sklianyim ornamentovanyim kubkom. *OIUM* 5: 20–28.
- Reida, R. M., Heiko, A. V. and Sapehin, S. V. 2021. Sklianyi kubok z eklektychnymy oznakamy z pokhovannia 112 Shyshatskoho mohyl'nyka. *Arkheolohiia* 4: 95–109.
- Rikman, E. A. 1975. *Pamyatniki sarmatov i plemen chernyakhovskoy kul'tury. Arkheologicheskaya karta Moldavii*. Kishinev.
- Rütti, B. 1991. *Die römischen Gläser aus Augst und Kaiseraugst*. Augst. Forschungen in Augst 13(2).
- Saveliev, O. K. 2017. Rimskiy import I v. n. e. v Tire i nekotorye voprosy rimsko-varvarskikh kontaktov v Severo-Zapadnom Prichernomor'e. *Stratum plus* 4: 119–134.
- Shabanov, S. B. 2011a. Steklyannye sosudy iz mogil'nika Neyzats (po materialam raskopok 1996–2010 gg.). *Bosporskie chteniya* 12: 421–427.
- Shabanov, S. B. 2011b. Steklyannye sosudy iz mogil'nika Neyzats (po materialam raskopok 1996–2011 gg.). *Materialy po arkheologii, istorii i etnografii Tavrii* 17: 141–191.
- Shabanov, S. B. 2013. Steklyannye sosudy iz raskopok Inkermanskogo i Chernorechenskogo mogil'nikov (iz kollektsii Bakhchisarayskogo zapovednika). *Krym v sarmatskuyu epokhu (II v. do n. e.–IV v. n. e.)* 1: 155–170.
- Shabanov, S. B. 2017. Kleyma na steklyannykh sosudakh rimskogo vremeni iz Severnogo i Severo-Zapadnogo Prichernomor'ya. *Problemy istorii, filologii i kul'tury* 1: 88–104.
- Shabanov, S. B. 2019. Steklyannye kubki s „sotovym” ornamentom pozdnerimskogo vremeni iz Severnogo Prichernomor'ya i Kavkaza. *Khersonesskiy sbornik* 20: 315–321.
- Shabanov, S. B. 2020. Steklyannye sosudy rimskogo vremeni iz mogil'nika Opushki v Krymu (po materialam raskopok 2003–2019 gg.). *Problemy istorii, filologii i kul'tury* 2: 110–134.
- Shchepachenko, V. I. 2022. Sklianyi posud piznorymskoho chasu z Viitenkiv: tekhnolohichniy aspekt. *Arkheolohiia* 1: 121–153.
- Son, N. O. 1988. Skliani posudyny z Tiry. *Arkheolohiia* 63: 47–56.
- Sorokina, N. P. 1957. Tuzlinskiy nekropol'. Moskva. *Trudy Gosudarstvennogo istoricheskogo muzeya* XXVI.
- Sorokina, N. P. 1962. Steklo iz raskopok Pantikapeya 1945–1959 gg. *Materialy i issledovaniya po arkheologii SSSR* 103: 210–236.
- Sorokina, N. P. 1965. Steklyannye sosudy iz Tanaisa. In D. B. Shelov (red.), *Drevnosti Nizhnego Dona*, 202–238. Moskva.
- Sorokina, N. P. 1971. O steklyannykh sosudakh s kaplyami sinego stekla iz Prichernomor'ya. *Sovetskaya arkheologiya* 4: 85–101.
- Sorokina, N. P. 1973. Steklyannye sosudy iz mogil'nika Kharaks. In: D. B. Shelov (ed.), *Kavkaz i Vostochnaya Evropa v drevnosti*, 183–189. Moskva.
- Sorokina, N. P. 1976. Pozdneantichnoe steklo iz Ol'vii. In I. B. Brashinskiy, K. S. Gorbunova, N. P. Shul'ts, G. A. Tsvetaeva and I. G. Shurgaya (eds), *Khudozhestvennaya kul'tura i arkheologiya antichnogo mira*, 199–209. Moskva.
- Sorokina, N. P. 1977. Antichnye steklyannye sosudy iz raskopok nekropolya bosporskogo goroda Kepy na Tamanskom poluostrove. *Antichnyy mir i arkheologiya* 3: 115–144.
- Sorokina, N. P. 1978. Antichnoe steklo v sobranii Odesskogo Arkheologicheskogo muzeya. In P. O.

- Karyshkovskiy (ed.), *Arkheologicheskie issledovaniya Severo-Zapadnogo Prichernomor'ya*, 267–274. Kyiv.
- Sorokina, N. P. 1979. Steklyannye sosudy IV–V vv. i khronologiya Tsebildinskikh mogil'nikov. *Kratkie soobshcheniya Instituta arkheologii* 158: 57–67.
- Sorokina, N. P. 1982. Steklyannaya posuda kak istochnik po istorii ekonomicheskikh svyazey Prichernomor'ya i lokal'nogo steklodeliya pervykh vekov n. e. *Trudy Gosudarstvennogo Istoricheskogo muzeya* 54: 40–42.
- Sorokina, N. P. 1994. Steklo iz rimskoy kreposti serediny I–III vv. n. e. v nizov'e Dunaya (gorodishche u sela Orlovka). In S. B. Okhotnikov (ed.), *Drevnee Prichernomor'e*, 177–185. Odesa.
- Sorokina, N. P. and Gushchina, I. I. 1980. Steklyannye izdeliya iz mogil'nikov pervykh vekov n. e. yugo-zapadnogo Kryma. *Trudy Gosudarstvennogo Istoricheskogo muzeya* 51: 89–100.
- Stern, E. M. and Schilic-Nolte, B. 1994. *Frühes Glas der alten Welt, 1600 v. Chr.–50 n. Chr.* Stuttgart.
- Strzheletskiy, S. F., Vysotskaya, T. N., Ryzhova, L. A. and Zhestkova, G. I. 2003–2004. Naselenie okrugov Khersonesa v pervoy polovine I tysyacheletiya novoy ery (po materialam nekropolya „Sovkhoz 10“). *Stratum plus* 4: 27–277.
- Symonovich, E. A. 1964. Steklyannye kubki iz Zhuravki. *Kratkie soobshcheniya instituta arkheologii* 102: 8–12.
- Taylor, M. and Hill, D. 2003b. Ribbed bowls and their manufacture <http://www.theglassmakers.co.uk/archiverandomanglassmakers/poster03.htm> (checked 18 September 2018).
- Turova, N. P. and Chernysh, S. A. 2015. Rannesrednevekovyy mogil'nik Aloniya na yuzhnom beregu Kryma (po materialam raskopok 1998. 2001. 2002 gg.). *Materialy po arkheologii, istorii i etnografii Tavrii* 20: 133–184.
- Twardcki, A. and Buiszykh, A. 2021. The Cherniahov Culture in Olbia Pontica in the light of Polish-Ukrainian excavations 2016–2018. *Sprawozdania Archeologiczne* 73(2): 251–273.
- Vinokurov, N. I. 2014. Nekropol' antichnogo gorodishcha Artezian v Krymskom Priazov'e. *Materialy raskopok 1999–2007. Simferopol–Kerch. Bosporskie issledovaniya. Supplementum* 12.
- Vysotska, T. M. 1964. Pro vyrobnytstvo skla v piznoantychnomu Krymu. *Arkheolohiia* 16: 7–20.
- Weinberg, G. D. and Goldstein, S. M. 1988. *Excavations at Jalame Site of a Glass Factory in Late Roman Palestine*. Columbia.
- Weinberg, G. D. and Stern, E. M. 2009. *Vessel Glass*. New Jersey. The American school of classical studies at Athens. The Athenian Agora XXXIV.
- Whitehouse, D. 2001. *Roman Glass in The Corning Museum of Glass. Vol. II*. Corning, New York.
- Yatsenko, E. G. 2005. Glasgefäße der Römerzeit und Spätantike aus Tanais. *Eurasia Antiqua* 11: 277–312.
- Yatsenko, E. G. 2006. Steklyannye chashi-fialy vtoroy poloviny II–serediny III v. n. e. iz Tanaisa. *Trudy Gosudarstvennogo Istoricheskogo muzeya* 159: 130–152.
- Yatsenko, E. G. 2007. Kolleksiya steklyannykh izdeliy iz Tanaisa IV–V vv. n. e. *Drevnosti Bospora* 11: 473–499.
- Yurochkin, V. A. and Trufanov, A. A. 2007. Khronologiya mogil'nikov Tsentral'nogo i Yugo-Zapadnogo Kryma 3–4 vv. n. e. In Yu. P. Zaytsev and V. I. Mordvintseva (eds), *Drevnyaya Tavrika*, 359–397. Simferopol.

Composite Antler Combs from Olbia Pontica

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In this paper, for the first time are presented the full selection of finds of antler composite combs with a single row of teeth from Olbia Pontica. All of them belong to the Cherniakhiv culture and are related to the time of the last settlement of the territory of the ancient city. From a typological point of view, all of them can be divided into two groups: combs with semicircular or trapezoidal handle and, slightly older than them, comb handles of a complex shape, which is based on a rectangle with a semicircular middle part.

KEY-WORDS: antler comb, Olbia Pontica, the Cherniakhiv-Sântana de Mureş culture, Northern Black Sea region

During scientific archaeological investigations at Olbia Pontica were found at least eight antler composite combs with a single row of teeth. They have been found in different parts of the site: in the city and at the necropolis. They differ from the rectangular and double-sided, mostly wooden, combs that are characteristic of the ancient Greek cities of the northern Black Sea coast (Sokol'skiy 1971: 138–149). Three of them are well-known to researchers from previous publications (Farmakovskiy 1903: 73; *Otchet Imperatorskoy...* 1903: 133; Peters 1986: 142), and five were unknown, published in the current article for the first time. In addition to them, the collection has a certain number of fragments, which unfortunately cannot provide any information about the type of artefact. Despite the fact that combs are among the most well known of bone artefacts from late antiquity to mediaeval time, their potential remains to be fulfilled.

All composite combs from Olbia Pontica which have been studied in this article belong to the “barbarian” type and originate from the Cherniakhiv-Sântana de Mureş culture. The current state of research of the subject may be briefly summarised. A major study of these artefacts was published by Sigrid Thomas (1960: 54–215) and this is still considered the main work on this topic. She composed the first

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typology of European combs of the Roman period. She divided the material into two large groups: one-layer and three-layer combs. Within these groups, the author divided them into types, focusing on the shape of the handle. Three-layer combs were divided into three types with several subtypes. Type I – with semicircular handle; Type II – with triangular handle; Type III – with handle of complex shape, which is based on a rectangle with a semicircular middle part.

This typology was based on a relatively small sample of combs originating mainly from the territory of Central and Northern Europe and almost does not involve materials from Eastern Europe. In addition, since the time of that publication, the number of artefacts has also increased significantly, owing to archaeological research. The typology indicated above is still relevant but needs to be adapted according to the number of features that are characteristic, for example, for combs of the Cherniakhiv culture, which contributed to further developments.

In the following years, the first typology was refined and detailed by modern archaeologists (Petrauskas 2009: 193–194; 2017: 126); some of them composed their own variants of the typology (Petković: 1995: 21–27; Shyshkin 1999; 2002). Separately, it is worth mentioning the detailed studies devoted to the so-called combs with a bell-shaped handle (Cnotliwy 2010). In the current research, the Thomas typology was utilized, along with some of the subsequent developments mentioned above.

Composite combs were most commonly made from antler (Thomas 1960: 76). Their very design is dictated by the particularity of the raw material; one-layer combs were small. In order to obtain products of larger sizes, ancient craftsmen had to invent a different form (Thomas 1960: 75). Composite three-layer combs consisted of several plates with teeth connected to each other by means of two mostly continuous side plates. In some cases, an additional reinforcing plate was used in the upper part. This whole structure was fixed with metal rivets, and possibly with glue. In some cases, the side plates could be decorated. Technological aspects were not, however, the main aim of the current research, so that part will not be discussed separately.

The first finds of three-layer combs were discovered during excavations at the beginning of the 20th century. Various publications mentioned them repeatedly, but some details still need to be specified. These works provided information in quite general ways and were supplemented by low quality illustrations, which are difficult to use in research. Taking into account the fact that these materials could not be analysed in person by the author herself, these publications should be used in the study as the main source of information.

One of these three-layer combs was found, together with other equipment, in the burial No. 8, during the excavations of the necropolis of Olbia in 1901. It was built as an earthen crypt with a dromos (Farmakovskiy 1903: 73). In addition

to a sparse description, the author provided a photo of the comb itself, without specifying the dimensions, as well as the date of the feature as a whole (Farmakovskiy 1903: 67). As was written in later publications, this comb is stored in the State Historical Museum (Moscow, Russian Federation) and has the inventory number 42707 (Sorokina 1976: 203; Peters 1986: 142, tabl. XII:13). For some reason, the pictures from these publications do not show the rivets mentioned in the original source (Farmakovskiy 1903: 73). According to the photo and drawings, it can be stated that this comb appears to be Thomas Type I. It has a semicircular handle, the height of which is approximately half the width. Such proportions make it possible (Shyshkin 2002: 244) to date it to the second half of the 3rd – the beginning of the 4th century (Peters 1986: 142).

Another important find of a comb was mentioned in the literature as a find either from Olbia or Berezan (Peters 1986: 142, tabl. XII:14). In fact, it was purchased as part of the private collection of antiquities from Olbia and Berezan of the Ochakiv archpriest N. Levitskiy (*Otchet Imperatorskoy...* 1903: 133), but this is certainly not reliable evidence of the origin of the object from Olbia. Its storage location is currently unknown, as are its dimensions and any other related information. The previous publication has only a single photo. Judging by this picture, this is a three-layer comb with a handle of complex shape (Thomas Type III) assembled using a large number of rivets. These features allow dating this comb no earlier than the middle of the 4th century (Shyshkin 2002: 245), while Peters dates it to the 3rd–4th centuries (Peters 1986: 142).

The next example was found during an excavation in 1910 (Peters 1986: 142, tab. XIII:15). Unfortunately, it is preserved in a highly fragmented state. It has a trapezoidal handle and curved sides, parts of which are held together with rivets. It was found in earthen grave No. 43, and is now stored in the State Hermitage Museum (Saint Petersburg, Russian Federation) under inventory number 3244. It can be classified as Thomas Type I. While it is difficult to draw definitive conclusions based solely on the available image, the flat top and arcuate bend of the sides allow it to be classified as variant 3, according to Petrauskas. Analogous combs were dated no later than the middle of the 4th century (Petrauskas 2009: 193–194).

Another restored fragment of an antler comb was discovered during excavation in 1952 (Fig. 1:1). It is preserved in the collection of the Olbia National Reserve under inventory number 1185. Unfortunately, work with archival data has not provided any information about the part of the site or sector where it was found. This is a three-layered antler comb; Type I, according to Thomas. It is preserved quite fragmentarily: the semi-circular handle has survived partly; the middle part with the teeth is completely lost. The handle plates are fixed with metal rivets, only four on the lower edge and three on the upper edge of the handle remain. The preserved



Fig. 1. Combs with semicircular handle. 1 – O-1952-1185, 2 – O-2009 R-25 No 1391.

Photo: A. Semenova.

height of the handle of the plate is 4.3 cm; the width is 8.5 cm. Despite significant damage, it can be stated that the height of the handle is approximately equal to half the width. This is an additional argument that allows to date this object to the second half of the 3rd – the beginning of the 4th century.

Another comb originates from the Upper Town, namely from sector R-25 (O-2009 number 1391). Today, it is preserved in the collection of the Archaeological Museum of the Institute of Archaeology of the National Academy of Sciences of Ukraine (Fig. 1:2). It is distinguished from the previous ones by the fact that it originates from the fill of a feature – a pit. Diverse but chronologically uniform material gave researchers the opportunity to date it to the 3rd–4th centuries (Krapivina and Buiskykh 2009: 52). This three-layer comb belongs to Thomas Type I. It has a semicircular handle without shoulders that was fastened with bronze rivets. There were probably seven of them in total, but due to damaged edges, only five have survived (another one can be traced by reason of the presence of a partially preserved hole). The height of the plate is 4.4 cm,



Fig. 2. Combs with handles of complex shape, which is based on a rectangle with a semicircular middle part, the so-called bell-shaped handle. 1 – O-1967 No 902, 2 – O-2003 No 457, 3 – O-2016 No 223. Photo: A. Semenova.

and the preserved width is 9.8 cm. The ratio of the height and width of the handle allows us to date this object to the second half of the 3rd – the beginning of the 4th century. It corresponds to the dating of the entire feature.

The next two examples are composite combs made of antler that were found in the Lower Town. A three-layer, partially damaged comb with a rounded back and straight shoulders was found exactly in the sector NGTS (O-1967, number 902). It belongs to Type III, according to Thomas (Fig. 2:1). The parts were fastened with bronze rivets; only two in the rounded part and four along the lower edge of the plate have survived. The height of the handle is 3.9 cm, the width could be approximately 9.2 cm. Separately, the presence should be mentioned of the end of the comb (extreme teeth), which, in combination with the proportions (Shyshkin 2002: 245), gives reason to date it no earlier than the middle of the 4th – the beginning of the 5th century. It is preserved in the collection of the Institute of Archaeology of the National Academy of Sciences of Ukraine.

A damaged composite comb was found in the sector NGS (O-2003 number 457) and it is stored in the Archaeological Museum of the Institute of Archaeology of the National Academy of Sciences of Ukraine (Fig. 2:2). It has a three-layer construction and a handle of the so-called complex shape with a round back, the shoulders are almost absent, but it can be assumed that they were straight. Part of the handle was also damaged, and only three segments remained from the inner plate with teeth. The height and width of the plate are preserved, 4 cm and 6.4 cm, respectively. Despite the damage, the comb was attributed to Type III, according to Thomas, and was dated to no earlier than the middle of the 4th century – the beginning of the 5th century. The fact that the comb most likely refers to late variants of the type is also confirmed by the large number of tubular rivets, ten of which have been preserved, a few more only have holes left.

A small fragment of a three-layer comb was discovered in the same area, in 2016 (O-2016 number 223). It measures only 2.9 cm by 2.2 cm and likely belongs to Type III, according to Thomas¹ (Fig. 2:3). Only the middle part with teeth and a fragment of the side plate have been preserved and one of the rivets that fastened the comb. By analogous materials, it can be dated to the end of 4th – the beginning of the 5th century. It is stored in the collection of the Olbia National Reserve.

From a typological point of view, all the three-layer combs from Olbia can be divided into two groups. The first is represented by the Type I according to Thomas, in two variations. They differ in the shape of the handle: one is semicircular (Fig. 1) and the another is trapezoidal (Peters 1986: 142, tabl. XII:15). They are generally dated to the second half of the 3rd – the beginning of the 4th century.

The second group is represented by the next class of finds. These combs have handles of complex shape, which is based on a rectangle with a semicircular middle part. This group of finds corresponds to Type III according to Thomas. Similar combs were dated to the second half of the 4th – the beginning of the 5th centuries.

It should be noted that the vast majority of combs from Olbia are dated on the basis of chronological developments determined on the basis of materials from other sites. This is due to the fact that almost all of the Olbia examples were found outside of dated assemblages (or detailed information about these assemblages is lost). The general chronology of the existence of the combs coincides with the time when the population that lived on the territory of Olbia and its economic district is identified with the bearers of the Cherniakhiv culture, namely the second half of the 3rd – the beginning of the 5th centuries. Archaeological objects related to this time are recorded at the site of Olbia in several sectors in the Upper and Lower parts of the city. The combs also were mostly found in these sectors.

¹ For assistance in identifying this specimen and valuable advice, we are grateful to O.V. Petrauskas, PhD in History, Head of the Department of Early Slavic Archaeology at the Institute of Archaeology of the National Academy of Sciences of Ukraine.

For a long time, the presence of the Cherniakhiv culture communities in the territory of Olbia was a controversial problem. There was an opinion that in the last period of its existence, Olbia continued as a Hellenic city (Krapivina 1993). The opposite point of view claims that the carriers of the Cherniakhiv culture settled here on the ruins of the ancient city (Zubar 2001: 132–138; Magomedov 2007: 47–54). Eventually, individual finds, however impressive, cannot serve as a convincing cultural indicator. Only the finding of a complex of such finds could be reliable evidence in that question. In addition to the actual combs, mentioned above, many other artefacts were found on the territory of Olbia that indicate the cultural affinities of the local population to the Cherniakhiv culture, such as specific types of fibulae, glass vessels and, of course, characteristic greyware ceramics (Magomedov 2007: 48). In this context, the study of greyware ceramics from closed dated complexes of a number of hillforts and settlements of the Olbia district, provide interesting results about development of the area. These investigations have allowed distinguishing two chronological stages that are clearly divided among themselves: classical antiquity and the Cherniakhiv periods. The latter covers the second half of the 3rd – the beginning of the 5th century (Magomedov 2007: 49). Therefore, only further systematic research of both new excavations and the introduction into the scientific circulation of materials from previous years by their fuller publication, will help to solve a number of issues related to the last stage of settlement of the territory of Olbia.

REFERENCES

- Cnotliwy, E. 2010. *Grzebień dzwonowatego typu w Europie*. Szczecin. Acta Archaeologica Pomoranica IV.
- Farmakovskiy, B. 1903. Raskopki nekropolia drevney Ol'vii v 1901 godu. *Izvestiya Imperatorskoy Arkheologicheskoy komissii* 8: 1–113.
- Krapivina, V. 1993. *Ol'viya. Material'naya kul'tura I–IV w. n. e.* Kyiv.
- Krapivina, V. and Buislykh, A. 2009. Otchet o rabotakh na uch. R-25 v Ol'vii v 2009 g. *Naukovyi arkhiv Instytutu arkheologii Natsionalnoi akademii nauk Ukrainy* 57. Manuscript in the Archive of Institute of Archaeology of the National Academy of Sciences of Ukraine.
- Magomedov, B. 2007. Olviia i varvary v piznoantychnyi period. *Arkheolohiia* 4: 47–54.
- Peters, B. 1986. *Kostoreznoe delo v antichnykh gosudarstvakh Severnogo Prichernomor'ya*. Moskva.
- Otchet Imperatorskoy ... 1903. Otchet Imperatorskoy arkheologicheskoy komissii za 1901 g.* Sankt-Peterburg.
- Petković, S. 1995. *Rimski predmeti od kosti i roga sa teritorije Gornje Mezije, Posebna izdanja*. Vol. 28. Beograd: Arheološki institut.
- Petrauskas, O. V. 2009. Chas poivay ta deiaki osoblyvosti rozvytku trupopokladen iz zakhidnoi orientatsiiei v cherniakhivskii kulturi (za danymy mogyl'nykiv Ukrainy). In K. Myzgin (ed.), *Ostrogotica*, 186–215. Kharkiv.
- Petrauskas, O. V. 2017. Übergang von der Stufe C2 zu C3 in der Chernjachov-Kultur (Auf dem Beispiel der Glasschalen mit Ringboden). *Ephemeris Napocensis* XXVII: 123–154.
- Shyshkin, R. 1999. Klassifikatsiya i tipologiya trekhstolnykh grebney chernyakhovskoy kul'tury. In *Sto rokiv vyuchennia kultur poliv pokhovan v Ukraini. Tezy dopovidei seminaru*, 43–47. Kyiv.

- Shyshkin, R. G. 2002. Khronologicheskie priznaki trekhsloynykh grebney chernyakhovskoy kul'tury. In S. D. Kryzhitskiy (ed.), *Suchasni problemy arkeolohii*, 244–246. Kyiv.
- Sokol'skiy, N. 1971. Derevoobratyvyayushcheye remeslo v antichnykh gosudarstvakh Severnogo Prichernomor'ya. *Materialy i issledovaniya po arheologii SSSR*, Vol. 178. Moskva.
- Sorokina, N. 1976. Pozdneantichnoe steklo iz Ol'vii. In N. Sokol'skiy (ed.), *Khudozhestvennaya kul'tura i arkeologiya antichnogo mira*, 202–248. Moskva.
- Thomas, S. 1960. Studien zu den germanischen Kämmen der römischen Keiserzeit. *Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege* 8: 54–215.
- Zubar, V. 2001. O zaklyuchitel'nom etape istorii Ol'vii (tret'ya chetvert' III – pervaya polovina IV v.). *Vestnik drevney istorii* 1: 32–138.

Recent Finds of the Latest Lamps from Olbia

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In the paper there are presented the chronologically latest ceramic lamps that have been found in the Olbia Pontica collection while studying the whole range of these devices from the end of the 7th century BC till the 5th century AD. The items considered here are mostly imported types and are dated to the middle of the 3rd–beginning of the 5th centuries AD. The study includes recently found lighting devices in the R-23 and R-25 excavation sectors in Olbia that are connected with the latest historical events at the settlement. A brief history of research, a catalogue of lamps and discussion of local and imported ceramic lamps are provided.

KEY-WORDS: lamps, Olbia Pontica, 3rd–5th centuries AD, recent finds, ancient imports

INTRODUCTION

Oil lamps, which are specifically shaped ceramic devices that were used to illuminate premises in the dark, are often used by researchers to suggest a date for other finds during the excavation of both settlement and funerary contexts. A developed typology and chronology of the lamps makes it possible on occasion to expand or, conversely, to narrow down an already existing and generally accepted chronological framework for specific ancient settlements. Thus, the more archaeological material is studied, the more likely it is that the dating of objects and sometimes settlements could change significantly.

The study of lamps of the period of antiquity from Olbia among other ceramic material occupies a small part of the historiography. Apart from O. F. Val'dgauer's catalogue (1914), lamps appeared only in excavation reports and random publications of materials. Among them, it is worth highlighting the publication of R. I. Vetshteyn, who first drew attention to lamps as a separate group of archaeological material

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and made an attempt to systematise them and typologise them, again on the basis of O. F. Val'dgauer's catalogue (Vetshteyn 1975: 183–191). It is also worth noting that there is only one article devoted exclusively to Olbian lamps, which contained materials on red slip lamps of the Roman period (Iofa 1964). A series of publications by O. I. Levi on the materials from the excavations of the Olbian Agora and the Eastern Temenos also contains several lamps (Levi 1956: 121–134; 1964: 131–174). It is typical that the earlier authors who published ceramic assemblages from settlements in the Olbian chora did not distinguish lamps separately. Today, there are a number of publications of archaeological materials that also contain photos or images of these items, but they are not described in the text, but are mentioned only as single finds, sometimes even without dating (Zakysova Balka: Shtitelman 1958: fig. 5, 15; Stara Bogdanivka-2: Marchenko and Domanskiy 1981: pls. 5, 15, 17; Kutsurub-1: Marchenko and Domanskiy 1991: figs 9, 7).

The collection of ancient lamps from the first centuries AD, including those from Olbia, stored in the Odesa Archaeological Museum of the National Academy of Sciences of Ukraine, is particularly noteworthy (Levina 1992). In addition, at the present stage, materials from the excavations of certain areas of Olbia have been introduced into scientific circulation. These are, first of all, publications of items found during the research of the Western Temenos. Among them are several handmade lamps (Gavrylyuk 2006: 193, fig. 214) and Ionic lamps, with a section on the technology of making these items and analogies (Rusyaeva 2006: 167–168, fig. 175). The section of the collective monograph on the lamps of the NGS site should also be mentioned in particular (Højte 2010: 423–437).

A similar study has already been carried out on the materials of another site in Olbia – the residential buildings of the Central Quarter (Sheiko 2014a). The research in question included early lamps (Sheiko 2013c), rare forms of these items (Sheiko 2013a), items with vertical loop handles (Sheiko 2013b), imports from Asia Minor and their imitations from Olbia (Sheiko 2014b). Some issues of national historiography on lighting devices of Olbia and its chora have also been considered separately (Sheiko 2013d).

Taking into account the development of native historiography, it should be noted that only in the last two decades has systematic work been carried out on the study of lamps as a separate type of ceramic products originating from the monuments of Antiquity in the Northern Black Sea region. At the same time, the vast majority of scholars have focused mainly on lamps found on the Bosporus. The collection of lamps originating from the North-Western Black Sea region, in particular, from the territory of the Olbian polis, still remains unexplored at a modern level and is therefore unknown to the general scientific community.

METHODOLOGY AND DATING

The issue of dating the lamps also remains relevant. The excavation reports of recent years, which contain data on closed and clearly dated complexes, have very narrow chronological boundaries, which allows us to adjust the insufficient data from previous years. It should be noted that previously all the latest objects and pottery items found at the settlement were dated by the 4th century AD. However, recent finds of imported ceramic materials, including lamps, dated to the 4th and even the beginning of the 5th centuries AD, have led to a reconsideration of the dates for the decline and ultimate fall of the settlement. It now seems that Olbia may have experienced a continuation after the 4th century AD, albeit a brief one.

The recent lamp finds in the Olbian collection presented in this paper are dated from the middle of the 3rd to the beginning of the 5th centuries AD and can be referred to the latest period of the existence of the settlement. Most of these lamps are of imported origin, with complete parallels known from Chersonesos, Cimmerian Bosphorus, Asia Minor and possibly also from Corinth, Syria and Palestine.

CLAY LAMPS OF THE LATEST PERIOD OF OLBIA (SEE TABLE 1)

Lamps ornamented with “grooves” on the rim (Fig. 1.1–8). There are 24 such lighting devices in the collection. In the paper there are only eight lamps that represent two main variants and some subvariants of this type. This type of devices is widespread mainly among the cities of the Northern Black Sea region, especially in Chersonesos (Crimea, Ukraine), where they constitute 30% of the total number of ceramic lamps found at the necropolis and in the settlement in general (Sorochan 1982: 43). That is why it seems reasonable to use the classification for the typology and dating of Serhii Sorochan. The author divided these lamps by the shape of the body into two main variants: pear-shaped and round-egg-shaped (Sorochan 1982: 44). Besides Olbia and Chersonesos, they were found also in large quantities in Tanais, Rostov region, Russian Federation (Arsen'eva 1988: pls. 19–23). Due to the discovery of such a lamp at the R-25 sector in 2017 (Buiskykh and Sheiko 2018: 18), it can be dated identically to the lamps of Tanais to the 3rd–4th centuries AD.

Denis Zhuravlev also relies on Sorochan's typology and dates them to the second quarter of the 3rd – the end of the 4th centuries AD (Zhuravlev and Turova 2012: 375; Chrzanovski and Zhuravlev 1998: 133–135). As for the centre of production of this type of lamps, it should be noted that, despite their significant distribution in the Northern Black Sea area, the fabric of some specimens is different, which may indicate several different production centres, as Denis Zhuravlev noted (Zhuravlev

Table 1. Catalogue of the latest lamps from Olbia.

No.	Inv. no.	A moulded lamp / a handmade lamp	Decoration	Clay	Dimensions (cm)			Place of find	Place of storage	Illustration
					height	body Ø	bottom Ø	length	handle	
1	O-38/1750/ B5/93	A moulded lamp. The item has got one nozzle and a solid vertical handle. The bottom is round and flat.	“grooves” on the rim, a rosette on the outer side of the bottom	dense; admixture of small fractures of limestone. Red-brownish slip of bad quality on the surface	3.8	5.8	2.8	7.7	×	Museum of the History of Ukraine, Kyiv, Ukraine c. AD
2	O-38/2346/ B5/1041	A moulded lamp. The item has got one nozzle and a solid vertical handle. The bottom is round and flat.	“grooves” on the rim, a rosette on the outer side of the bottom	dense; admixture of small fractures of limestone. Red slip of bad quality on the surface. The nozzle has traces of soot	3.5	5.2	2.4	7.2	×	Museum of the History of Ukraine, Kyiv, Ukraine c. AD
3	O-37/1850/ B4/464	A moulded lamp. The item has got one nozzle and a solid vertical handle. The nozzle is fragmented. The bottom is round and flat	“grooves” on the rim, a rosette on the outer side of the bottom	dense; admixture of small fractures of limestone. Red-brownish slip of bad quality on the surface	3.5	5.4	3.0	7.4	×	Museum of the History of Ukraine, Kyiv, Ukraine c. AD
4	O-36/2159/ B5/117	A moulded lamp. The item has got one nozzle and a base for a vertical handle that is not preserved. The bottom is round and flat	“grooves” on the rim	dense; admixture of silver mica. Red slip of bad quality on the surface	2.5	5.6	3.0	7.4	×	Museum of the History of Ukraine, Kyiv, Ukraine c. AD

No.	Inv. no.	A moulded lamp / a handmade lamp	Decoration	Clay	Dimensions (cm)				Place of find	Place of storage	Illustration	
					height	body Ø	bottom Ø	length				handle
5	O-38/4171/ B5/86	A moulded lamp. The item has got one nozzle and a vertical handle. The bottom is round and flat.	“grooves” on the rim, a dot on the outer side of the bottom	dense; no visual admixtures. Red slip of bad quality on the surface	3.7	5.5	2.5	7.2	1.8×0.7	Lower Town of Olbia. Accompanying material is of the 1st – 3rd c. AD	Museum of the History of Ukraine, Kyiv, Ukraine	Fig. 1:5
6	O-39/968/ B2/824/ KB.15889	A moulded lamp. The item has got one nozzle and a vertical handle. The nozzle is fragmented. The bottom is round and slightly concave.	“grooves” on the rim	dense; admixture of small fractures of limestone. Red slip of good quality on the surface	3.0	5.5	2.6	6.5	1.6×0.4	Lower Town of Olbia. Quadrant no. 15889. Accompanying material is of the 1st – 3rd c. AD	Museum of the History of Ukraine, Kyiv, Ukraine	Fig. 1:6
7	O-38/1425/ B5/1083	A moulded lamp fragment (upper part). Only a part of the discus with a vertical handle is preserved	“grooves” on the rim	dense; admixture of small fractures of limestone. Red slip of good quality on the surface	2.8	5.0	×	5.5	1.4×0.6	Lower Town of Olbia. Accompanying material is of the 1st – 3rd c. AD	Museum of the History of Ukraine, Kyiv, Ukraine	Fig. 1:7
8	O-39/1373/ B6/468	A moulded lamp. The item has got one nozzle and a vertical handle. The nozzle is fragmented. The bottom is round and slightly concave	“grooves” on the rim; a rosette on the outer side of the bottom	dense; admixture of small fractures of limestone. Red slip of bad quality on the surface	3.1	5.2	2.4	6.3	1.7×0.4	Lower Town of Olbia. Accompanying material is of the 1st – 3rd c. AD	Museum of the History of Ukraine, Kyiv, Ukraine	Fig. 1:8

No.	Inv. no.	A moulded lamp / a handmade lamp	Decoration	Clay	Dimensions (cm)			Place of find	Illustration		
					height	body Ø	length Ø				
9	O-2008/ P-25/1017	A moulded lamp. The item has got one nozzle and a solid vertical handle. The discus is fragmented. The bottom is flat	no ornament	admixture of small fractures of limestone and sand. The surface without any covering	3.7	5.0	×	7.3	×	R-25 sector. Accompanying material is of the 4th c. AD	Museum of Archaeology, Kyiv, Ukraine Fig. 1:9
10	O-87/ P-25/161	A moulded lamp fragment (upper part). Only a part of the discus and a part of the nozzle are preserved	a fuzzy zigzag pattern around the filling hole	admixture of small fractures of mica. The surface has a light-yellow clay covering	×	5.0	×	6.7	×	R-25 sector. Accompanying material is of the 2nd-3rd c. AD	Museum of Archaeology, Kyiv, Ukraine Fig. 1: 10
11	O-38/1053/ B5/1085	A moulded lamp fragment (upper part). Only a part of the discus with a solid vertical handle is preserved	a rosette in the centre of the discus and a series of round indentations along the edge of the rim that are considered as leaves	dense; admixture of small fractures of limestone. Red slip of bad quality on the surface	3.5	5.0	×	6.8	×	Lower Town of Olbia. Accompanying material is of the 1st – 3rd c. AD	Museum of the History of Ukraine, Kyiv, Ukraine Fig. 1: 11
12	O-2003/ P-25/2261	A moulded lamp fragment (upper part). Only a part of the discus, a part of the nozzle and a vertical handle are preserved. The nozzle has traces of soot	a stylized shell on the discus	admixture of small fractures of golden mica and limestone. The surface is rough, has a light-yellow clay covering. 4/8 2.5YR	4.8	6.5	×	10.0	1.8×0.8	R-25 sector. Accompanying material is of the 1st-3rd c. AD	Museum of Archaeology, Kyiv, Ukraine Fig. 1: 12

No.	Inv. no.	A moulded lamp / a handmade lamp	Decoration	Clay	Dimensions (cm)				Place of find	Place of storage	Illustration
					height	body Ø	bottom Ø	length			
13	A-1264	A moulded lamp. The item has got one nozzle and a solid vertical handle. The bottom is flat	a stylized shell on the discus	admixture of small fractures limestone. The surface hasn't any traces of covering; smooth. 6/6 5YR	5.8	5.5	×	11.2	1.3×0.5	unknown	Fig. 1: 13 Mykolaiv Local History Museum "Staroflotski Kazarmy", Mykolaiv, Ukraine
14	O-99/ P-25/3047	A moulded lamp. The item has got one nozzle and a solid vertical handle. The bottom is flat	several rows of dot ornaments and barely visible volutes near the nozzle	admixture of small fractures limestone. The surface hasn't any traces of covering; 6/6 5YR	3.2	5.0	×	7.5	×	R-25 sector. Accompanying material is of the 1st-3rd c. AD	Fig. 1: 14 Museum of Archaeology, Kyiv, Ukraine
15	O-2004/ P-25/808	A moulded lamp fragment (upper part). Only a part of the discus, a part of the nozzle and a solid vertical handle are preserved	fuzzy zigzag pattern around the filling hole	admixture of big fractures of limestone and sand. The surface is rough, without covering	3.1	6.2	×	8.7	×	R-25 sector. Accompanying material is of the 1st-3rd c. AD	Fig. 1: 15 Museum of Archaeology, Kyiv, Ukraine
16	O-92/ P-25/2284	A moulded lamp fragment (upper part). Only a part of the discus, and a vertical handle are preserved	no ornament	admixture of small fractures of limestone and sand. The surface is rough, with light-yellow clay covering	2.1	5.8	×	3.9	0.9×1.0	R-25 sector. Accompanying material is of the 1st-3rd c. AD	Fig. 1: 16 Museum of Archaeology, Kyiv, Ukraine

No.	Inv. no.	A moulded lamp / a handmade lamp	Decoration	Clay	Dimensions (cm)			Place of find	Place of storage	Illustration
					height	body Ø	bottom Ø	length	handle	
17	O-2017/ P-23/391	A moulded lamp. The item has got one nozzle and a solid vertical handle. The bottom is flat. There is soot on the nozzle	no ornament	admixture of small fractures of limestone. The surface is smooth, with red slip of good quality	4.2	6.0	2.8	8.5	×	Fig. 1: 17 Repository of the National Historical-Archaeological Reserve "Olbia", Parutyne, Ukraine
18	O-2004/ P-25/3477	A moulded lamp fragment (upper part). Only a part of the discus, a part of the nozzle and a solid vertical handle are preserved. There is soot around the filling hole and nozzle	floral ornament with bunches of grapes made on raw clay	admixture of small fractures of limestone. The surface is smooth, with red slip of bad quality	2.8	5.8	×	7.4	×	Fig. 1: 18 Repository of the National Historical-Archaeological Reserve "Olbia", Parutyne, Ukraine
19	O-2016/ P-23/270	A moulded lamp fragment. Only a part of the body, a part of the base of vertical handle are preserved, and a part of the bottom. There is soot around the filling hole and nozzle	floral ornament with bunches of grapes made on raw clay	admixture of small fractures of limestone and mica. The surface is rough, with no covering	2.5	5.5	×	6.7	×	Fig. 1: 19 Repository of the National Historical-Archaeological Reserve "Olbia", Parutyne, Ukraine

No.	Inv. no.	A moulded lamp / a handmade lamp	Decoration	Clay	Dimensions (cm)				Place of find	Place of storage	Illustration
					height	body Ø	bottom Ø	length	handle		
20	O-2004/ P-25/3923	A moulded lamp fragment (upper part). Only a part of the discus	groove-shaped décor around the filling hole, but the grooves are wider than in the cat. nos. 1-8	admixture of small fractures of limestone and mica. The surface is smooth, with red slip of bad quality	1.3	3.8	×	4.8	×	R-25 sector. Accompanying material is of the 4th-5th c. AD	Repository of the National Historical-Archaeological Reserve "Olbia", Parutyne, Ukraine Fig. 1: 20
21	O-2017/ P-25/224	A hand-made lamp. The item has one nozzle and a side solid handle. The bottom is flat. There is soot on the nozzle	no ornamentation	admixture of big fractures of limestone and sand. The surface is rough, with no covering	3.8	3.8	×	7.2	×	R-25 sector. Accompanying material from the pit no. 1900 is of the 4th – early 5th c. AD	Repository of the National Historical-Archaeological Reserve "Olbia", Parutyne, Ukraine Fig. 1: 21
22	O-51/2495	A moulded lamp. The item has one nozzle. The bottom is flat. The nozzle if fragmented	no ornamentation	admixture of big fractures of limestone and sand. The surface is rough, with light-yellow clay covering	3.0	5.0	×	9.2	×	unknown	Repository of the National Historical-Archaeological Reserve "Olbia", Parutyne, Ukraine Fig. 1: 22

No.	Inv. no.	A moulded lamp / a handmade lamp	Decoration	Clay	Dimensions (cm)			Place of find	Place of storage	Illustration
					height	body Ø	bottom Ø	length	handle	
23	O-2003/ P-25/2262	A moulded lamp fragment. A solid vertical handle with a part of the discus around it is preserved	a pair of fish on the edge of the discus	admixture of small fractures of limestone. The surface is rough, with no covering	3.2	7.0	×	3.1	×	Fig. 1: 23
								R-25 sector. Accompanying material is of the 3rd – 4th c. AD	Repository of the National Historical-Archaeological Reserve “Olbia”, Parutyne, Ukraine	



Fig. 1. Inventory numbers of the lamps: 1 – O-38/1750/B5/93; 2 – O-38/2346/B5/1041; 3 – O-37/1850/B4/464; 4 – O-36/2159/B3/117; 5 – O-38/4171/B5/86; 6 – O-39/968/B2/824/ KB.15889; 7 – O-38/1425/B5/1083; 8 – O-39/1373/B6/468; 9 – O-2008/R-25/1017; 10 – O-87/R-25/161; 11 – O-38/1053/B5/1085. Photos: I. Sheiko.

and Turova 2012: 376). Their probable production area seems to have been the southern part of the Western Black Sea region (Kostova and Dobrova 2008: 163).

Rounded-shaped “grooved” lamps dominate in our collection (Fig. 1. 2, 4–7), and there are only a few pear-shaped ones (Fig. 1.1, 3, 8). We have identical lamps among the collections of the Yalta Museum (Zhuravlev and Turova 2012: pl. 14, nos. 83, 85, 86, 93) and the National Museum in Warsaw (Bernhard 1955: tab. XCIII, nos. 331–333). An identical lamp to ours (Fig. 1.6), originates from Ephesus, and is dated from the end of the 2nd century AD, but the latter has volutes on the sides of the nozzle, indicating an earlier date (Lyon-Caen and Hoff 1986: cat. no. 125). In addition, such lamps are common in the Danube River region (Kuzmanov 1992: cat. nos. 277–278).

Lamp with a stylized shell on the discus (Fig. 2.1–2). Such lamps are reminiscent of a Hellenistic type shape, however, the closed form of the reservoir indicates their later date. They are decorated with round protrusions, and ribbed ornament. They were believed to be a variant of the “grooved” lamps, but this was a false conclusion. Oskar Val’dgauer mistakenly dated them to Hellenistic times (Val’dgauer 1914: cat. nos. 70–71) because of their body shape, similar to the products of this time. However, the material from the Cimmerian Bosporus (Panticapaeum, Tyritake, Iluraton) indicate that such lamps are dated to the 3rd century AD (Zabelina 1992: pls. 6.6; 322; Arsen’eva 1988: pls. 5–6). Denis Zhuravlev classifies them as Type No. 36 and writes that they are one of the most common types of lamps in the Bosporan Kingdom (Crimea, Ukraine and partly in Russian Federation) in Roman times, and believes that they were made there (Zhuravlev *et al.*, 2010: Type 36).

In the Tanais area, identical devices to our lamp (Fig. 2.2) were found during the excavations of a destroyed building dated to the first half–middle of the 3rd century BC (Arsen’eva 1988: 28, pls. 5.1–4; 6.1–3). In Panticapaeum too, such lamps were discovered in houses of the 3rd century AD (Zabelina 1992: 322).

Lamp with a rosette in the centre of the discus (Fig. 1.11). This object had a series of round indentations along the edge of the rim that are considered to represent leaves. It was found during a survey of the Lower Town in the late 1930s (Sheiko and Puklina 2019: 78). It resembles a similar lamp with a 13-petal rosette on the discus and ornamentation with leaves around it dated to the 3rd century AD from the collection of the Belgrade Museum (Krunic 2011, cat. nos. 322–323). Another analogy is among the products of Argos (Bovon 1966: pl. 11, no. 447), but the handle has a hole and the dating is later, that is – the 4th century AD. Among the materials of Kerameikos, there are two lamps that have similar decorations, however, the ornamentation around the discus is different: they are both of Attic



Fig. 2. Inventory numbers of the lamps: 1 – O-2003/R-25/2261; 2 – A-1264; 3 – O-99/R-25/3047; 4 – O-2004/R-25/808; 5 – O-92/R-25/2284; 6 – O-2017/R-23/391; 7 – O-2004/R-25/3477; 8 – O-2016/R-23/270; 9 – O-2004/R-25/3923; 10 – O-2017/R-25/224; 11 – O-51/2495; 12 – O-2003/R-25/2262; 13 – the lamp depicting the Jonah story.
After: Zhuravlev and Kostromichev 2017: table 46, 13, 177.

origin and are dated to AD 350–360 (Böttger 2002: pl. 54, no. 3446) and one – from Pompeii with the date – of AD 360–390 (Böttger 2002: pl. 68, no. 4002).

Lamp with several rows of dot ornaments and barely visible volutes near the nozzle (Fig. 2.3). This is a rare type in our collection. It was found, as the main part of the presented lamps in this paper, at the R-25 sector in Olbia. The handle also does not have a hole, as in the previous item. There is an analogy to this lighting device among the “Globuli-Lampen” from Kerameikos in Athens, with the dating AD 360–390 (Böttger 2002: pl. 69, no. 4072). The lamp from Olbia has a rather vague outline and a blurred design, which indicates that the matrix from which it was made was worn from frequent use. The clay is red with no visual impurities except for small fragments of limestone which corresponds to the imported types of lamps.

Lamp with no ornament with the handle without a hole (Fig. 1.9). The only complete analogy found to it is in the collection of the Louvre Museum (Lyon-Caen and Hoff 1986: cat. no. 281), of unknown origin and dating. The quality of the clay of this product indicates that it was poorly kneaded before firing. It was found in the R-25 sector while investigating a layer of the 4th century AD (Krapivina and Buiskiykh 2009: 11).

Lamp with a indistinct zigzag pattern around the filling hole (Fig. 1.10). The elongated shape suggests a late dating. Lamps, similar in ornament and morphology, belong to the group of so-called “North African lamps”. This form appears in the 4th century AD near Alexandria and Egypt, also it was common in Italy and Greece at this time, where imitations of such lamps were made (Kuzmanov 1992: Type 36, cat. no. 304). In the 5th century AD, such lamps were popular in the Central Mediterranean, Thrace, Pannonia, and weakly in Dacia.

Georgi Kuzmanov convinced that such lamps (Fig. 2.4) belong among the Syrian-Palestinian products, which are dated from the end of the 4th century AD, and which were widespread in the region of Lower Moesia and Thrace in the 4th–5th centuries AD, but in the Istrian-Pontic area are found even until the 7th century AD (Kuzmanov 1992: Type 32, cat. no. 294).

Lamp with decoration similar to the “grooved” (Fig. 2.9). This small fragment comes from a lamp that is identical to a find dated to the 5th–6th centuries AD stored in the Museum of Hannover (Mlasowsky 1993: cat. no. 440), however, for Olbia it is more likely to consider the dating to the 5th century AD. Another analogy is from the collection of lamps from the British Museum (Bailey 1988: pl. 55, no. Q2262).

Lamp with a flat simple discus with no decoration (Fig. 2.5). The very small fragment of this object does not allow complete identification of its shape. Similar devices with such a discus without ornament, but with a different handle are found in Noricum, Pannonia, among the material of the 3rd–4th centuries AD (Kuzmanov: 1992, Type XLII, var. 1, see cat. no. 371). Moreover, there is a similar item among the collection of lamps of the British Museum (Bailey 1988: pl. 5, no. Q1577). The origin of such lamps was Gallia/Britannia, as it came from the western cemetery in the Ohlengärten in the north of Praunheim (Nida-Hedderheim). The dating is determined by the accompanying material and is much earlier than our lamp is – AD 120–150. It should be noted that identical shapes of lamps could have been popular for a long time before, for instance, a similar device is in the collection of Argos dated to the 2nd–1st centuries BC (Bovon 1966: pl. 4, no. 189).

Lamp with semi-closed form with no decoration (Fig. 2.6). This was found during research on the R-23 excavation site in Olbia among materials of the 1st–3rd centuries AD (Buislykh *et al.*, 2017: 34). This lamp is unique in shape, because it has the morphology of a late Hellenistic lamp, but the handle and elongated nozzle are not similar to the lighting devices of this time. Such a product has an analogy among the material from Trier, to a lamp dating from the 2nd–3rd centuries AD (Zeischka 1997: cat. nos. 67; 88), however, the handle has some extension at the top. Among the material from Tanais, a similar lamp was found with a later dating – the end of the 4th – beginning of the 5th century AD (Arsen'eva 1988: pl. 24.2). Almost identical lamps of orange clay and red slip covering like the Olbia item was found among the material from the Chersonesos necropolis in Grave 134 and Tomb 26 with the inventory dated to the 4th–5th centuries AD (Zhuravlev and Kostromichev 2017: pl. 36.5; pl. 41.4).

Lamp with a floral ornament with bunches of grapes (Fig. 2.8). This fragment also originates from the R-23 sector in Olbia. It depicts a floral ornament with bunches of grapes impressed in the raw clay. The lamp was possibly of Syrian origin, as its analogy was found among the materials of Dura-Europos (Baur 1947: fig. 34). According to the stratigraphy of the R-23 site, the lamp comes from a layer with the numismatic materials of the early 5th century AD (Buislykh *et al.*, 2017: 34). A similar lamp, but of bigger size, comes from the R-25 sector in Olbia (Fig. 2.7). Here the item has a part of a handle without a hole preserved, which is an indicator of a 4th–5th centuries dating.

Lamp with elongated form without decoration on the discus (Fig. 2.11). This has no analogies from any other ancient sites, but its shape indicates a dating to

the 3rd–4th centuries AD, the macroscopic features of the fabric clearly show that it was imported to Olbia, possibly from Asia Minor.

Lamp with hand-made construction (Fig. 2.10). This comes from the fill of a pit on the R-25 excavation site, which makes it possible to date it to the 4th century AD. However, it should be noted that the morphology of its shape is more similar to the lamps of Hellenistic times.

Lamp with a pair of fish on the edge of the discus (Fig. 2.12). This fragment is one of the most interesting pieces among the latest finds of lamps in the Olbian collection. It has been previously published in the work dedicated to the Corinthian imported lamps from Olbia Pontica (Sheiko 2017: 119–120, fig. 4.1). The reported study allowed the whole decorative composition of this lamp to be identified, which is impressive (Fig. 2.13). A much better preserved lamp was found in a closed deposit in the Chersonesos necropolis in a crypt that was dated by the second half of the 2nd–3rd centuries AD (Zhuravlev and Kostromichev 2017: 110–112; 177, pls. 46. 13; 2020: 70). The depicted scene corresponds to the story described in the Old Testament of the prophet Jonah being swallowed by a sea monster. Such a scene on a lamp discus was popular in the ancient world (see more: Belousov *et al.*, 2018: 42; 2022: 69–70). The Olbia find is of Corinthian origin, judging by the characteristic clay, although the find from Chersonesos, according to Denis Zhuravlev, comes from one of the Greek centres (Belousov *et al.*, 2018: 41). This is the only find so far in Olbia with an image that belongs to the early Christian tradition. The scene with the ship, Jonah and the sea monster is one of the most popular in Early Christian art. It is shown for example on a number of sarcophagi of the second half of the 3rd–4th centuries, the most famous being the Jonah Sarcophagus in the Vatican Museum (Gerke 1940: taf. 1:1).

DISCUSSION

The issue of local production and imports is no less important in the study of ancient lamps found on the territory of Olbia Pontica. The discussion of local pottery production has been going on since the mid-20th century: scholars' works mainly concerned the analysis of ceramic products, although at that time firing kilns were discovered on the territory of the Olbian settlement (Slavin 1940: 12; 1952: 55; Vetshteyn 1958: 61–62) and the question of the existence of local pottery production has been raised (Knipovich 1940).

Signs of local Olbian ceramic production include the presence of limestone and sand fragments in the clay, often a rough surface of the products and poor slip or paint coating: the presence of ceramic moulds for the manufacture of lamps, which are found alongside the finished products. Such moulds have also been found on the territory of Olbia (for example, in the NG area in the complex dating from the 2nd–1st centuries BC, a ceramic mould for making two-nozzled lamps that imitated imported Pergamon examples was found, as well as several lamps made of local light estuarine clay, probably made from this mould (Vetshteyn 1975: 184, fig. 3).

Small golden mica fragments in the clay of most of the lamps are typical for Mediterranean pottery centres (Zhuravlev *et al.*, 2007: 31), which suggests that they were imported from there. The main characteristic of Miletian production is the clay, which has a significant admixture of small golden mica specks. Grey burnishing, dotted ornamentation, and small silver-coloured inclusions in the clay make it possible to assert Ephesian production (Zhuravlev *et al.*, 2010: 20).

The need to conduct ceramological analyses of Olbian clay is urgent in the study of local lamp production in particular and the possibility of conducting comparative statistical studies on the distribution of imports and local production.

CONCLUSION

The article examines the most recent lamps coming from the territory of Olbia Pontica. The prevailing number of the lamps considered in the paper (the total number of such items is 39) come from the section R-25, and the several remaining – section R-23 and the Lower Town of Olbia. Most of these lamps are of imported types and variants, with complete parallels known from Chersonesos, Cimmerian Bosphorus, Asia Minor and possibly also from Corinth, Syria and Palestine.

It should be noted that only in the past two decades has there been a systematic effort to study lamps as a distinct type of ceramic artefacts from ancient Northern Black Sea sites. Most scholars have concentrated primarily on lamps discovered in the Bosphorus area. Consequently, the collection of lamps from the North-Western Black Sea region, particularly from the Olbian polis, remains largely unexplored and unknown to the broader scientific community.

The study of ancient lamps from Olbia Pontica highlights significant issues of local production. There is an urgent need for ceramological analyses of Olbian clay to confirm local production and differentiate it from imports.

The finds of the latest lamps in Olbia are an extremely important aspect of the study of the political and economic history of the city, prompting research into a little known period, for which there are few archaeological artefacts, and contributing new data to correlate with the overall picture of site development created by scholars so far.

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REFERENCES

- Arsen'eva, T. M. 1988. *Svetil'niki Tanaisa*. Moskva.
- Bailey, D. M. 1988. *A Catalogue of the Lamps in the British Museum. Vol. III. Roman Provincial Lamps*. London.
- Baur, C. V. 1947. *The Excavations at Dura-Europos. Part III. The Lamps*. London.
- Belousov, A. V., Zhuravlev, D. V. and Kostromichev, D. A. 2018. *Svetil'nik s izobrazheniem Iony iz Khersonesa Tavricheskogo*. In V. N. Zin'ko and E. A. Zin'ko (eds), *Bosporskie chteniya XIX. Materialy mezhdunarodnoy nauchnoy konferentsii*, 40–50. Simferopol–Kerch.
- Belousov, A. V., Zhuravlev, D. V. and Kostromichev, D. A. 2022. Izobrazhenie proroka Iony na svetil'nike iz Khersonesa Tavricheskogo. *Problemy istorii, filologii, kul'tury* 1: 61–89. Moskva–Magnitogorsk.
- Bernhard, L. B. 1955. *Lampki starozytne*. Warszawa.
- Böttger, B. 2002. *Die kaiserzeitlichen Lampen von Kerameikos*. München. Band XVI der Reihe: Kerameikos Ergebnisse der Ausgrabungen.
- Bovon, A. 1966. *Lampes D'Argos*. Paris. Etudes Peloponnesiennes V.
- Buiskykh, A. V. and Sheiko, I. N. 2018. *Otchet o raskopkah na uchastke v Ol'vii v 2017 g.* Naukovyi Arkhiv Institutu Arkheolohii NAN Ukrainy. Funds no. 2017/56.
- Buiskykh, A. V., Tvardecki, A. and Novichenkova, M. V. 2017. *Otchet o robotakh na uchastke R-23 v Ol'vii v 2016 godu*. Naukovyi Arkhiv Institutu Arkheolohii NAN Ukrainy. Funds no. 2016/7.
- Chrzanowski, L. and Zhuravlev, D. V. 1998. *Lamps from Chersonesos in the State Historical Museum*. Moscow.
- Gavryliuk, N. A. 2006. *Lepnaya keramika i obshchie statisticheskie dannye keramicheskikh materialov. Materialy po arkeologii, istorii i etnografii Tavrii, Supl. 2*: 191–197.
- Gerke, F. 1940. *Die christlichen Sarkophage der vorkonstantinischen Zeit*. Berlin. Studien zur spätantiken Kunstgeschichte 11.
- Højte, J. M. 2010. Lamps. In N. A. Leypunskaja [Leypunskaya], P. G. Bilde, J. M. Højte, V. V. Krapivina and S. Kryzickij [Kryzhytskyi] (eds), *The Lower City of Olbia (Sector NGS) in the 6th Century BC to the 4th Century AD*, 423–437. Aarhus.
- Iofa, T. I. 1964. Krasnolakovye svetil'niki. In V. F. Gaydukevich (ed.), *Ol'viya: temenos i agora*, 281–284. Moskva.
- Knipovich, T. N. 1940. Keramika mestnogo proizvodstva iz raskopa I. In N. I. Yachmenev (ed.), *Ol'viya*, 129–170. Kyiv.

- Kostova, K. and Dobрева, D. 2008. Roman, Late Roman and Early Byzantine Lamps from National Archaeological Reserve "DEULTUM—DEBELT". In A. Roman and N. Gudea (eds), *Trade and Local Production of Lamps from the Prehistory until the Middle Age*, 161–169. Cluj – Napoca. Lychological Acts 2. Acts of the 2nd International Congress on Ancient and Middle Age Lighting Devices (Zalău – Cluj – Napoca, 13th–18th of May 2006).
- Krapivina, V. V. and Buisyskh, A. V. 2009. *Otchet o raskopkakh na uchastke R-25 v Ol'vii v 2008 g.* Naukovii Arkhiv Institutu Arkheolohii NAN Ukrainy. Funds no. 2009/57.
- Krunić, S. 2011. *Antichke svetiljke iz Muzeja grada Beograda*. Beograd.
- Kuzmanov, G. 1992. *Antichni lampi. Kolektsia na Natsionalnia arheologicheski muzey*. Sofia.
- Levi, E. I. 1956. Ol'viyskaya agora. *Materialy i issledovaniya po arheologii SSSR* 50: 35–118.
- Levi, E. I. 1964. Materialy ol'viyskogo temenosa (obshchaya kharakteristika). In V. F. Gaydukevich (ed.), *Ol'viya: temenos i agora*, 131–174. Moskva.
- Levina, È. A. 1992. *Antichnye svetil'niki Odesskogo arheologicheskogo muzeya (I – VI vv. n.e.)*. Odesa.
- Lyon-Caen, Ch. and Hoff, V. 1986. *Catalogue des lampes en terre cuite grecques et chrétiennes. Musée du Louvre*. Paris.
- Marchenko, K. K. and Domanskiy, A. V. 1981. Antichnoe poselenie Staraya Bogdanovka. *Arheologicheskii sbornik* 22: 62–74.
- Marchenko, K. K. and Domanskiy, A. V. 1991. Kompleks veshchestvennykh nakhodok na antichnom poselenii Kutsurub I. *Arheologicheskii sbornik* 31: 57–76.
- Mlasowsky, A. 1993. *Die antiken Tonlampen im Kestner-Museum Hannover*. Hannover.
- Rusyaeva, A. S. 2006. Vostochnogrecheskaya keramika. *Materialy po arkeologii, istorii i etnografii Tavrii, Supl.* 2: 162–167.
- Sheiko, I. N. 2013a. Redkie typy svetil'nikov iz Ol'vii. *Bosporskie issledovaniya* 28: 385–398.
- Sheiko, I. N. 2013b. Ruchki-petli ot svetil'nikov iz Ol'vii. *Bosporskie chteniya* 14: 530–533.
- Sheiko, I. M. 2013c. Ranni svetil'niki Ol'vii (VI – V st. do n.e.). *Arheologiya* 1: 107–113.
- Sheiko, I. M. 2013d. Istoriia vyvchennia svitylnykyv Olvii VI – I st. do n.e. *Magisterium. Arkeologichni studii* 53: 42–46.
- Sheiko, I. N. 2014a. Svetil'niki. *Materialy po arkeologii, istorii i etnografii Tavrii, Supl.* 13: 486–505.
- Sheiko, I. M. 2014b. Maloaziiski svitylnyky ta ikh imitatsii z Olvii. *Arkheolohiia i davnia istoriia Ukrainy* 1(12): 101–107.
- Sheiko, I. M., 2017. Korynfski svitylnyky pershykh vikiv z Olvii. In N. O. Gavyrliuk (ed.), *Pivnichne Prychornomoria za antychnoi doby (na poshanu S.D. Kryzhytskoho)*, 116–121. Kyiv.
- Sheiko, I. M. and Puklina, O. O. 2019. Roman Lamps from the National Museum of History of Ukraine. *Arheologiya* 2: 74–94.
- Slavin, L. M. 1940. Otchet o raskopkakh Ol'vii v 1935 i 1936 gg. In N. I. Yachmenev (ed.), *Ol'viya*, 9–82. Kyiv.
- Slavin, L. M. 1952. Naslidky arkeolohichnykh doslidzhen olviiskoi ekspedytsii v 1947 i 1948 rr. *Arkheolohichni Pamiatky URSR* 4: 48–58.
- Sorochan, S. B. 1982. Pro tak zvani rubchasti svitylnyky z Khersonesa. *Arkheolohiia* 38: 43–50.
- Shtitelman, F. M. 1958. Poselennia bilia Zakysovoi Balki (Rozkopky 1948–1949 rr.). *Arkheolohichni Pamiatky URSR* 7: 131–142.
- Val'dgauer, O. F. 1914. *Antichnye glinyanye svetil'niki*. Saint Petersburg.
- Vetshtein, R. I. 1975. Mestnaya keramika Ol'vii pervykh vekov nashey ery. In S. N. Bibikov (ed.), *Ol'viia*, 164–197. Kyiv.
- Vetshtein, R. I. 1958. Keramichni vypaliualni pechi Olvii pershykh stolit nashoi ery. *Arkheolohichni Pamiatky URSR* 7: 61–76.

- Zabelina, V. S. 1992. Antichnye glinyanye svetil'niki iz Pantikapeya. In *Soobshcheniya Gosudarstvennogo muzeya izobrazitelnykh iskusstv imeni A.S. Pushkina*, 298–328. Moskva.
- Zeischka, A. 1997. *Licht durch die Jahrtausende*. Trier.
- Zhuravlev, D. V., Bykovskaya, N. V. and Zheltikova, A. L. 2007. *Svetil'niki VI – pervoy poloviny III v. do n.e. Kerch*.
- Zhuravlev, D. V. and Kostromichev, D. A. 2020. O neskol'kikh svetil'nikakh iz nekropolya Khersonesa Tavricheskogo (po materialam raskopok R.H. Lepera). In D. D. Vasilev (ed.), *Istoricheskie, kul'turnye, mezhnatsional'nye, religioznye i politicheskie svyazi Kryma so Sredizemnomorskim regionom i stranami Vostoka. IV Mezhdunarodnaya nauchnaya konferentsiya (Sevastopol, 6–10 oktyabrya 2020 g.). Materialy konferentsii, Tom 1*, 68–75. Moskva.
- Zhuravlev, D. and Kostromichev, D. 2017. *Kompleksy s yuvelirnymi izdeliyami iz khersonesskogo nekropolya. Chast' 1. Materialy naskopok R.H. Lepera v 1909–1910 gg.* Moskva.
- Zhuravlev, D. V., Bykovskaya, N. and Zheltikova, A. 2010. *Svetil'niki vtoroy poloviny III v. do n.e. – IV v. n.e. Ellinisticheskie importnye svetil'niki. Bosporskie ellinisticheskie importnye svetil'niki. Bosporskie ellinisticheskie i rimskie svetil'niki*. Kerch.
- Zhuravlev, D. V. and Turova, N. P. 2012. Antichnye glinyanye svetil'niki Yaltinskogo istoriko-literaturnogo muzeya. *Bosporskie issledovaniya* 26: 335–400.

The Fortifications of the Late Scythian Settlement at Konsulivske

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Konsulivske belongs to the group of Late Scythian hillforts located in the lower Dnipro area. Since 2015, a Ukrainian–Polish archaeological team has been carrying out the investigation of the site. The article presents the results of these studies focused on fortifications of the citadel and the main line of defence.

KEY-WORDS: Konsulivske, lower Dnipro, Late Scythian culture, hillfort, fortifications

INTRODUCTION

The group of Late Scythian¹ hillforts, inhabited in the Late Hellenistic and Early Roman² periods, were situated along the banks of the lower Dnipro River, to

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1 N. A. Gavrylyuk and V. V. Krapivina have proposed the term post-Scythian culture for the Late Scythian culture of the Lower Dnipro area (2005: 66; 2007a: 52; 2007b: 563; see also: Gavrylyuk and Matera 2016). The opposite point of view was expressed by A. V. Symonenko (Symonenko *et al.*, 2015: 7; Symonenko 2016: 476–477).

2 Various scholars have differently determined the chronology of these sites, as the genesis and features of the Late Scythian culture in the territory of the Lower Dnipro were perceived in different ways (Viazmitina 1969a; 1969b; Shul'ts 1971; Symonovich 1971; Wąsowicz 1975: 113–116; Viazmitina 1986; Dashevskaya 1989: 140–145; Gey and Bazhan 1990; Abikulova and Bylkova 1994; Bylkova 1998; Gudkova 1998; Bylkova 2002; Bylkova 2005; 2007a: 112–118; 2007b; Gavrylyuk and Krapivina 2007a; Gavrylyuk and Krapivina 2007b; Gavrylyuk 2009; Bylkova 2010; Polin 2017: 232–234; Symonenko 2020; Symonenko and Sikoza 2020). According to the new analysis of archaeological materials, the Late Scythian settlements of the Lower Dnipro area were founded in the 2nd century BC or at the turn of the 2nd and 1st century BC (Gavrylyuk and Abikulova 1991: 29–30; Bylkova 2007a:

the north-east of Olbia Pontica (Fig. 1).³ Two other enclaves of Late Scythian culture were located on the Crimean Peninsula and between the lower Dnister and Danube rivers (Dashevskaya 1989: 140; Polin 2017: 224; Symonenko 2021: 69). Strabo (VII, 4, 5) called these three regions by a common term “Scythia Minor” (Μικρά Σκυθία). Hillforts of the lower Dnipro area extend from the bend and the first rapids of the Dnipro on the north to the beginning of the Dnipro estuary on the south (Gavrylyuk and Krapivina 2007b: 564), creating a defence system. Most of these sites were located on the right bank of the river. Only five of them were situated on the left bank (Gavrylyuk and Krapivina 2007a: 54). Such a localization gives the impression of a defensive line against a threat from the east. The rise of Late Scythian fortified settlements on the lower Dnipro roughly corresponds to the appearance of Sarmatian tribes in the Don and Dnipro interflaves, after the middle of the 2nd century BC (Polin 1992: 117; 2017: 224; cf., Bylkova 2007a: 43–44 and 111–114). However, there are no archaeological traces of the destruction of Late Scythian hillforts at this time (Symonenko 2020: 304) and the relationship between the Sarmatians and the Late Scythians has been perceived differently by scholars – from hostile (Abramova 1962: 283) to friendly (Viazmitina 1972: 174). Moreover, some of the hillforts were founded slightly later, i.e., in the 1st century BC (Bylkova 2007a: 113–114; Polin 2017: 233).⁴ It cannot be ruled out that their foundation was related to the events that led to the destruction of Olbia by the Getae.⁵

The reasons for the mentioned above spatial arrangement and location of these sites are unknown. There is no doubt, however, that they remained in the zone of mutual intervisibility,⁶ allowing at least the transmission of signals, for example by means of smoke or fire and making the entire system of hillforts on both banks of the Dnipro an excellent tool for controlling this part of the river – both for navigation and for crossing (Gavrylyuk and Krapivina 2007a: 54). However, this issue is difficult to resolve due to the complete change in the hydrological situation as a consequence of the construction of the dam in Nova Kakhovka and creating the Kakhovka Reservoir in the 1950s of (Bylkova 2007a: 40). Cartographic sources can prove how much the geographic conditions have changed in the lower Dnipro region. For example, on the map of the territories of the Grand Duchy of Lithuania (also known

114). Such a chronology is confirmed by materials from cemeteries (Symonenko and Sikoza 2020: 289).

3 Detailed information about particular settlements, see: Gavrylyuk and Olenkovskyi 1992: 36 sq.; Gavrylyuk 2013: 543 sq).

4 In the opinion of M. I. Viazmitina (1969a: 65): “Such a difference in the timing of the construction of defensive walls on the hillforts was obviously connected with the varying degrees of danger periodically approaching either from the Sarmatians or from the Celts and Getae”.

5 On the Getic sack of Olbia, see: Vinogradov 1989: 263 sq.; Krapivina 1993: 139–141.

6 The exception are three hillforts located outside the zone of direct visibility – Zolota Balka, Kozatske and Poniatiwske (Lech 2019: 19 and 20, tab. 2).

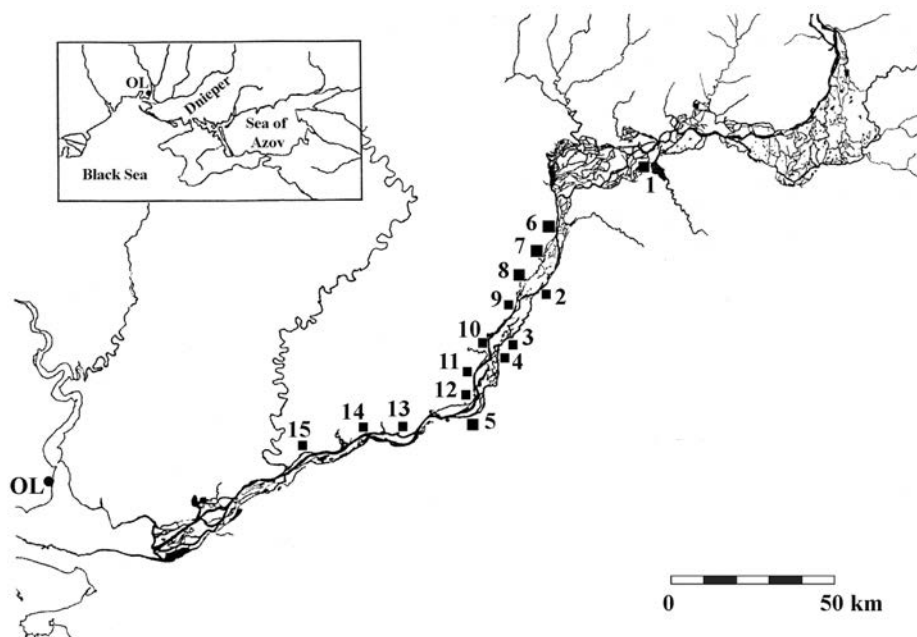


Fig. 1. Late Scythian hillforts in the lower Dnipro area and Olbia (on the basis: Bylkova 2007b: 91): 1 – Znamenske; 2 – Velyka Lepetikhha; 3 – Hornostaivske; 4 – Kairske; 5 – Liubimivske; 6 – Zolota Balka; 7 – Havrylivske; 8 – Annivske; 9 – Sablukivske; 10 – Konsulivske; 11 – Chervonyi Maiak; 12 – Zmiivske; 13 – Kozatske; 14 – Lvovo; 15 – Poniativske; OL – Olbia. Graphic design: Authors.

as the Radziwiłł map), published in 1613,⁷ a number of islands and islets are visible. These details are visible in the attached map of the lower Dnipro with a much larger scale than main map.⁸ These islands are also visible on the map by G. de Beauplan, published in 1650. The Beauplan map is considered to have fairly accurately reflected the water network, the most important roads, features of the terrain relief, river crossings etc. (Alexandrowicz 1978: 112). There is no doubt that Late Scythian fortified settlements were established in places with natural defensive properties – on the high bank of the river, often between deep gullies (Bylkova 2000: 132).

The Konsulivske site belongs to the group of Late Scythian hillforts in the lower Dnipro area. It is located on the river's right bank close to Respublikanets village,

⁷ The first lost edition of this map was printed probably in 1603 but not even a single copy of this edition is known (Alexandrowicz 1978: 110). For a detailed discussion of this issue, see: Alexandrowicz 1968.

⁸ On the Radziwiłł map, see: Alexandrowicz 1965. Detailed description of Radziwiłł map, see: Merczyng 1913: 416–431.

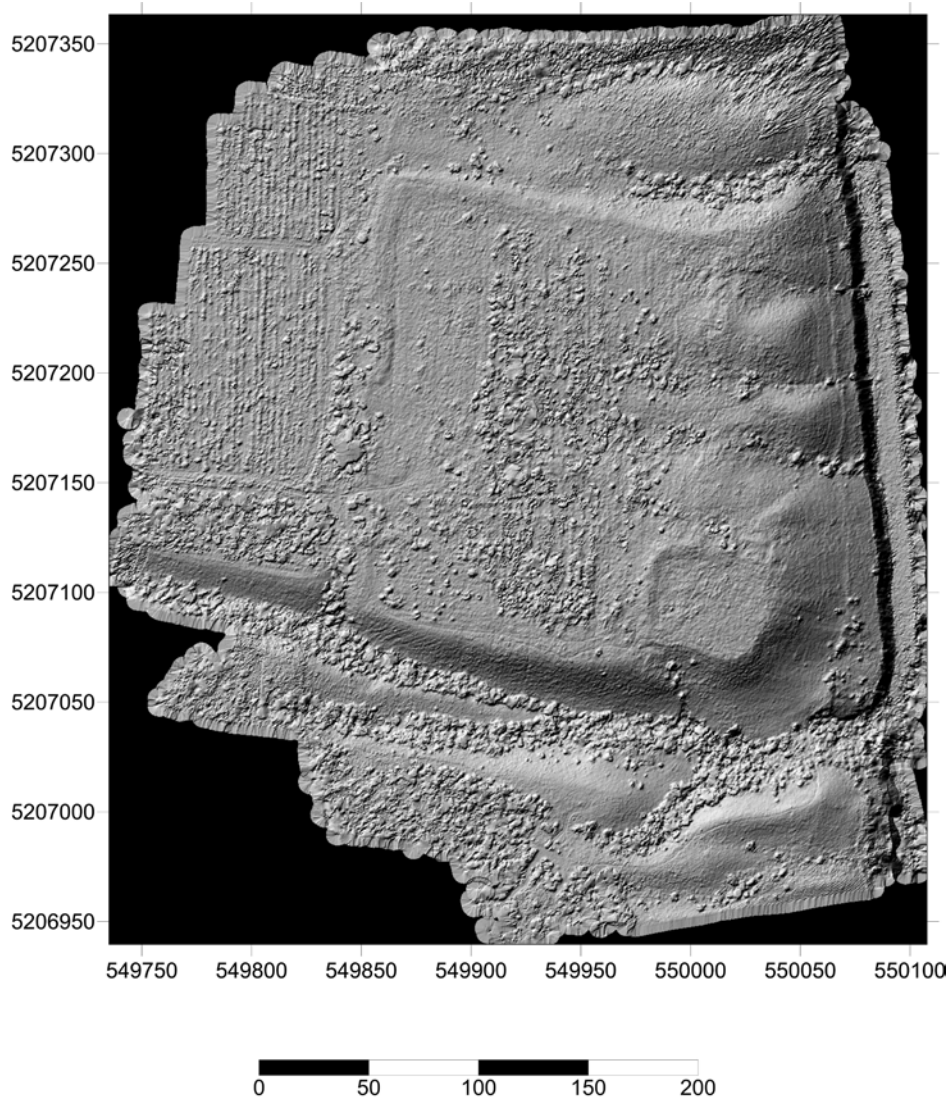


Fig. 2. Digital Terrain Model of the Konsulivske hillfort, Berislav region, Kherson oblast.
Graphic design: M. Bogacki.

in the Berislav District of Kherson Oblast, in southern Ukraine (Gavrylyuk and Olenkovskiy 1992: 44; Gavrylyuk 2013: 556). The hillfort is situated on a high limestone terrace, surrounded from the north and south by deep gullies that descend towards the Dnipro (Figs 2–3).

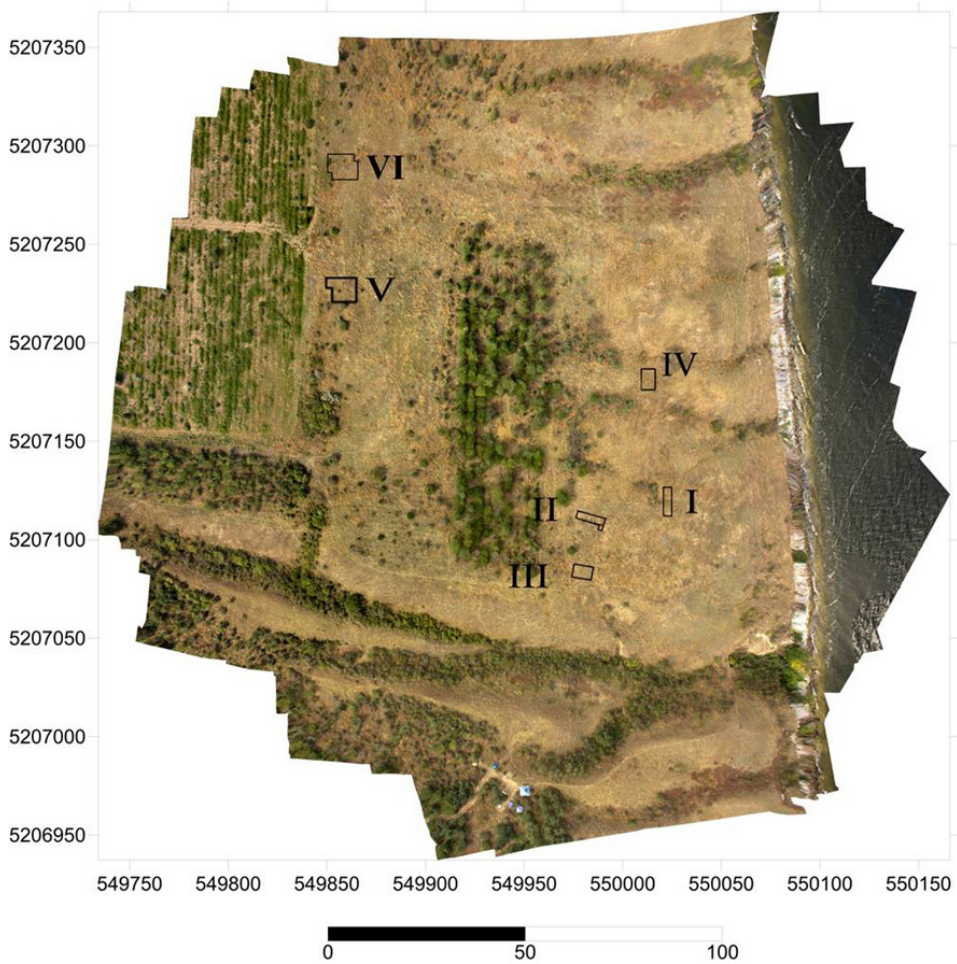


Fig. 3. Konsulivske hillfort. Orthophotomap with the localization of trenches.
Graphic design: M. Bogacki, M. Matera.

The first information and descriptions of the lower Dnipro Late Scythian hillforts date back to the 19th century (Bylkova 2007a: 6; Gavrylyuk and Krapivina 2007a: 54–55; 2007b: 564–565; Popova 2011: 137; Nykonenko 2015: 91). At this time the Konsulivske site was first mentioned in scientific literature (Myshetskiy 1851: 71; Chirkov 1867: 546; Yastrebov 1894: 117). The archaeological work on the site started at the beginning of the 20th century. As a result, the description (Goshkevich 1913: 138–139; cf., Gavrylyuk and Krapivina 2007b: 565; Nykonenko 2015: 91)

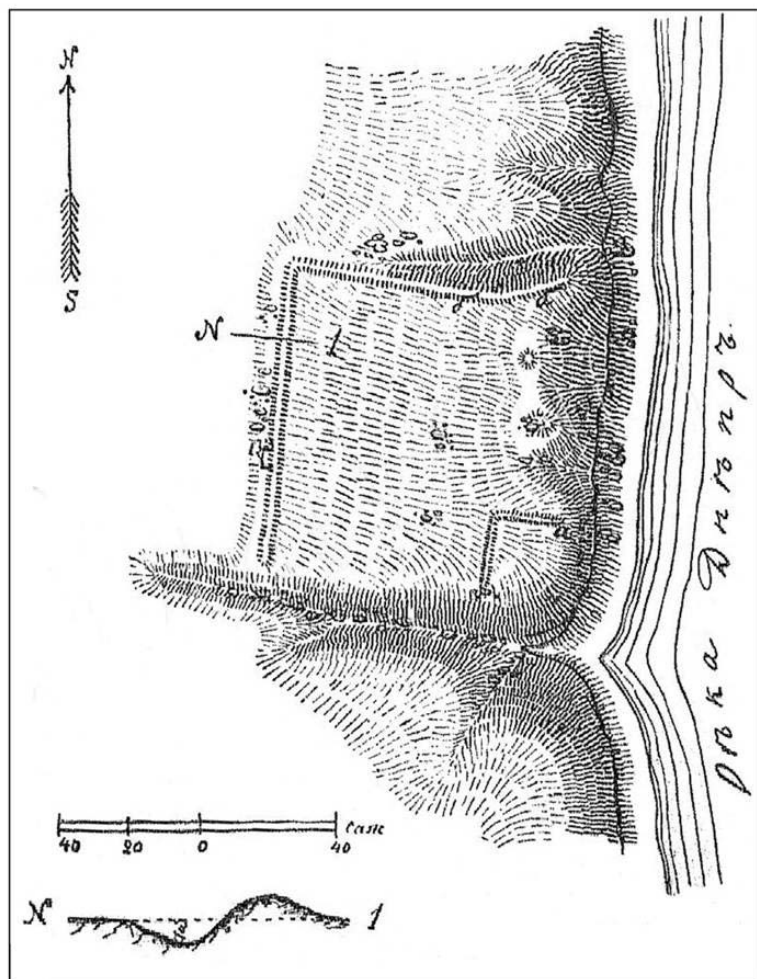


Fig. 4. Konsulivske hillfort. Topographical plan (after Goshkevich 1912, fig. 3).

and the plan of the site were created (Goshkevich 1912: 8, fig. 3; Fig. 4).⁹ During the excavations carried out in 1915, a section of the stone defensive wall dated to the turn of the eras was discovered (Goshkevich 1915: 6–7; cf., Nykonenko 2015: 91). The information published by Viktor Ivanovich Goshkevich on the results

⁹ This plan was then republished in later works by Goshkevich (1913: 138, fig. 57; 1915: 6, fig. 3). The first schematic plans of the site were on Russian military maps created in the mid-19th century (Nykonenko 2015: 92).

of the excavations was very laconic, but their importance cannot be overestimated. Until the commencement of modern excavations in the 21st century this was the only information about the fortifications of the hillfort. It is also worth emphasizing that the citadel located in the south-eastern corner of the site was marked on the plan created by V. I. Goshkevich. Later on, no excavations were carried out. In the second half of the 20th century only some test pits and surveys were conducted on the Konsulivske site (Gavrylyuk and Olenkovskiy 1992: 44; Gavrylyuk 2013: 556; Nykonenko 2015: 91–92), but their results have never been fully published.

Modern archaeological research at the Konsulivske site started in 2014. An expedition from the National Reserve “Khortytsia” in Zaporizhzhia started the excavations from five test pits (Nykonenko 2015: 91). Since 2015, the investigation has been realised as a joint Ukrainian-Polish project in cooperation between the National Reserve “Khortytsia”, the Institute of Archaeology, the National Academy of Sciences of Ukraine and the Faculty of Archaeology (former Institute of Archaeology) and the Antiquity of Southeastern Europe Research Centre – the latter two institutions associated with the University of Warsaw. The main purpose of the joint work was to study the fortification system.

Before the commencement of the excavations, non-invasive survey such as aerial photography, topographical measurements, and geophysical prospection with the use of magnetic and electrical resistivity measurements was carried out (Matera *et al.*, 2017; Nykonenko *et al.*, 2018a). The initial stage of archaeological research confirmed Goshkevich’s plan and the presence of the rectangular citadel in the south-eastern corner of the site (Matera *et al.*, 2017: 126 and 129). The dimensions of the citadel were 50 (N–S) x 60 (E–W) metres (Nykonenko 2015: 95).

The results of magnetic and resistivity surveys also brought the first information about the construction of the fortifications. During the magnetic research, especially in the area of the citadel, a number of parallel linear anomalies were recorded (Fig. 5). They were also recorded (Fig. 5) during the resistivity measurements in the area of the citadel fortifications (E1 and E3 sectors) and the northern defence line of the main part of the hillfort (E5 sector). This led to the assumption that the defensive walls were double-faced structures, which was confirmed by the follow-up excavations (Matera *et al.*, 2017: 129–137; Nykonenko *et al.*, 2018a: 382–386; Matera *et al.*, 2022: 613).

FORTIFICATIONS OF THE CITADEL OF THE HILLFORT

Systematic archaeological excavations on the site of the Konsulivske hillfort started in 2015. In Trench I, laid out on the northern line of citadel fortifications, poorly preserved defensive wall remains were discovered. In 2016, Trench II was created

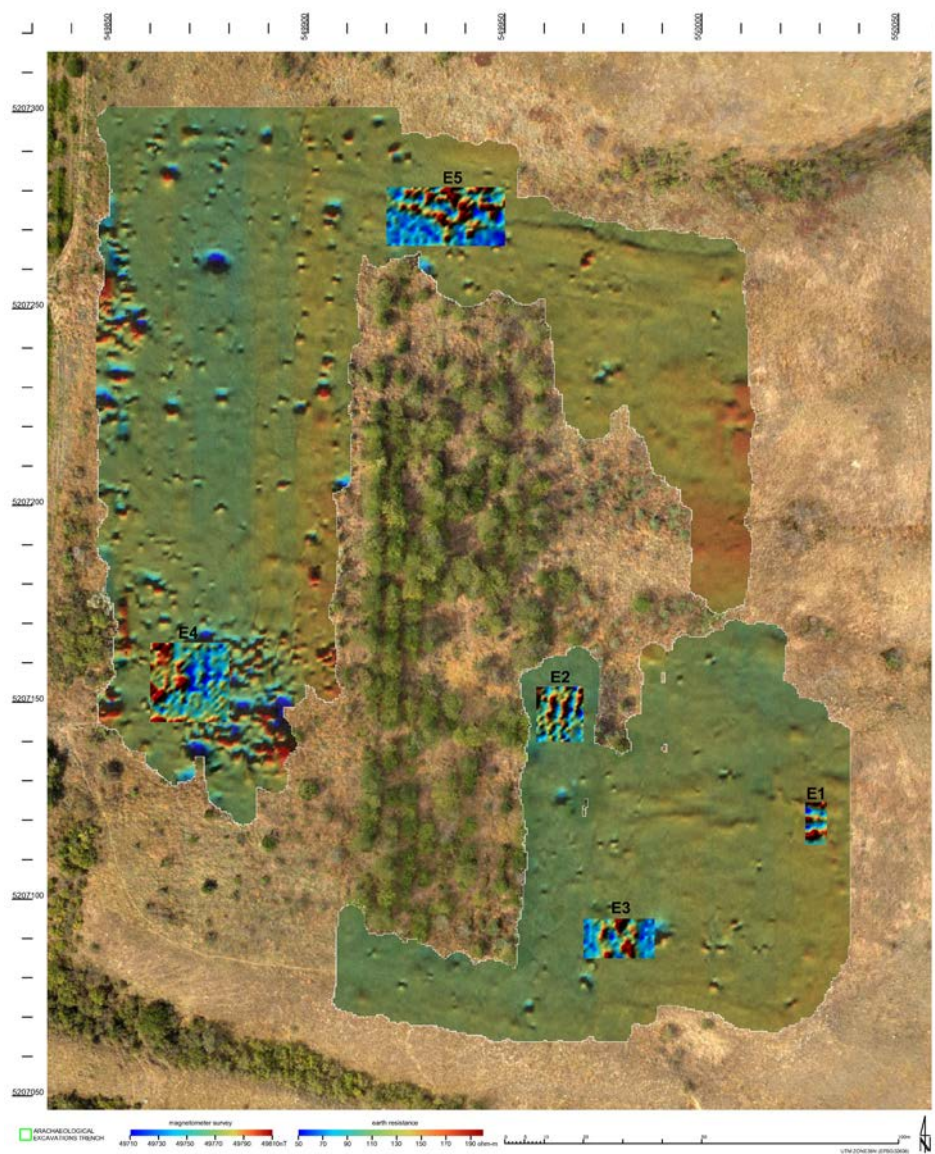


Fig. 5. Konsulivske hillfort. Orthophotomap with the results of magnetic and electrical prospection. Graphic design: M. Bogacki, W. Małkowski.



Fig. 6. Trench II with discovered remains of defensive wall.
Photo: D. Nykonenko.

to investigate the area of the western defensive line of the citadel. A part of double-faced defensive stone wall with a clay and stone filling was discovered there (Fig. 6). The wall was *c.* 2.60 m wide, constructed of big and medium irregular stones bonded with a clay. The masonry of both wall faces was irregular (Figs 7–8); stones were laid in quasi-rows, matching the size and shape to the stones next to them. The space between the facing was filled with clay and small to medium-sized stones. On the outer face the remains of loess plaster approximately 0.07 m thick was recorded. The defensive wall discovered in Trench II was built on a substructure 0.50 m height in a shape of a low earthen bank (Fig. 9). No traces of foundation or footing were observed. On the inner wall face a stone buttress supporting it was revealed (Fig. 7). Its construction was laid on alternate layers of ash and loess, resembling the technique used for foundations known from Olbia. The buttress is preserved to the height of one row of masonry. Perhaps its upper part was made of loess blocks. Its width is from 0.40 to 0.70 m. In front of the defensive wall protecting the citadel, a drainage ditch 1.30 m wide and 0.40 to 0.60 m deep was dug in the virgin loess. It cannot be ruled out that it was also of strategic importance. Together with the earthen bank protruding in front of the outer face of the defensive wall at 1.10 m, it significantly complicated a direct approach to the fortification line. This drainage ditch cut (Matera *et al.*, 2017: 137; Nykonenko *et al.*, 2018b: 389; Nykonenko and Matera 2019: 283; Matera *et al.*, 2022: 614) the mouth of Pit 5/2017 (Fig. 6).



Fig. 7. Eastern facade of defensive wall and a stone buttress discovered in Trench II. Photo: M. Matera.



Fig. 8. Western facade of defensive wall discovered in Trench II.
Photo: M. Matera.

In 2018, during the excavations in Trench III, located also in the area of the western defensive line of the citadel, the remains of the gateway were investigated. The state of preservation of the structures discovered in Trench III allowed only a general picture of this part of the fortifications to be obtained. The 1.60 m wide gate was flanked on the north by the curtain of the defensive wall and on the south by a tower without an internal room (Fig. 10). As in the case of the defensive wall discovered in Trench II, the defensive wall flanking the gateway on the north was built on a substructure in the form of a low bank. The preserved height of the bank was 0.32 m, but had probably originally been slightly higher. The surface of the entrance to the interior of the citadel was covered with an artificial layer of loess. This either functioned as a surface in its own right, or was possibly the substructure under some form of paving



Fig. 9. Earth-bank on which the defensive wall discovered in Trench II was built. Photo: M. Matera.

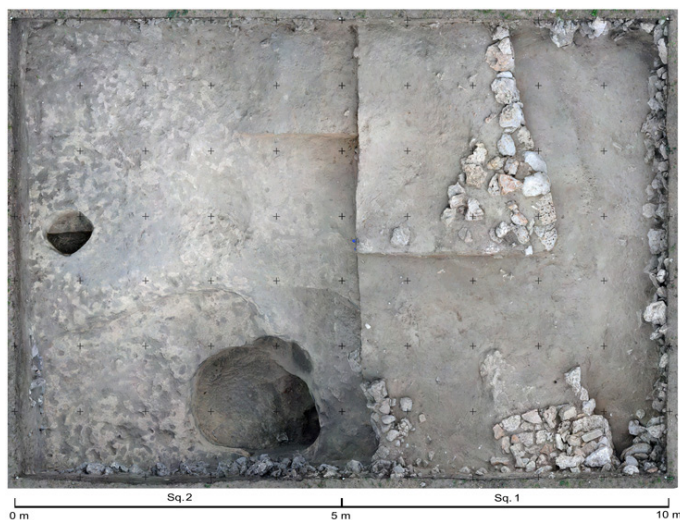


Fig. 10. Konsulivske hillfort. Orthophotomap of Trench III with discovered remains of fortifications and gateway. Photo: P. Lech.



Fig. 11. Trench III. The drainage ditch cut through the earlier Pit 2/2018. Photo: M. Matera.

that had not been preserved. Along the outer side of the tower the drainage ditch 0.70 m wide and 0.55 m deep was registered, as in the Trench II. Also in this case, the drainage ditch cut (Matera *et al.*, 2022: 614) a pit, Pit 2/2018 (Fig. 11).

FORTIFICATIONS OF THE MAIN PART OF THE HILLFORT

The fortifications of the main part of Konsulivske site were investigated in 2019 and 2021. In 2019, a section of the western defensive wall, reinforced with a tower was investigated (Trench V). In 2021, excavations were conducted in the northwestern corner of the hillfort (Trench VI).

The building technique and masonry of 12 m long segment of defensive wall discovered in Trench V (Fig. 12) were analogous to those known from the citadel. The wall in Trench V was also built as double-faced construction. However, its width was narrower – in some places only *c.* 2.0 m. In the entire section uncovered in 2019, the wall was built directly on a cultural layer. There were no traces of the earth-bank on which the walls of the citadel had been built. As in the case of the defensive walls of the citadel, no trace of a foundation trench and footing were registered. In

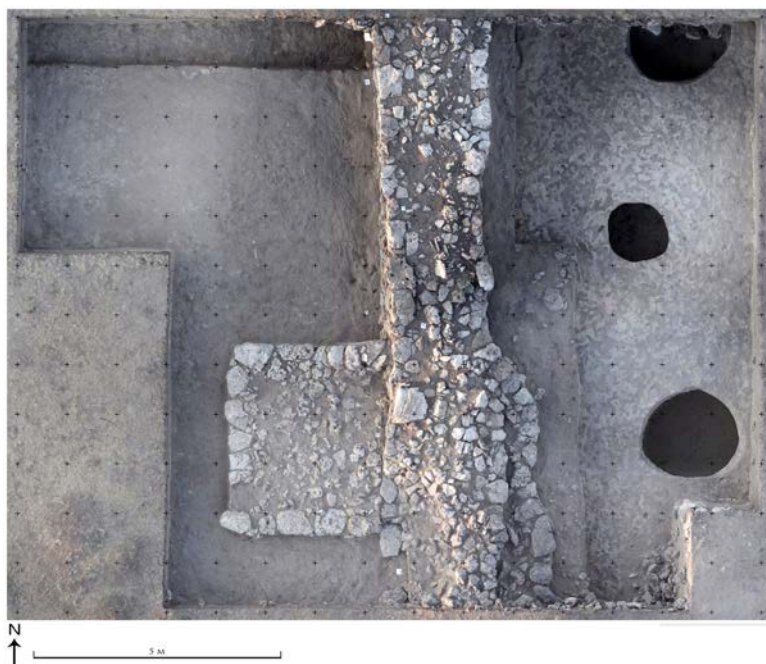


Fig. 12. Konsulivske hillfort. Orthophotomap of Trench V with discovered remains of fortifications – defensive wall and flanking tower. Photo: P. Lech.

some places beside the outer facade of the defensive wall a layer of leached loess was observed (Fig. 13). It was most likely created as a result of the erosion of loess plaster originally covering the face of the wall. A tower without an internal room was later added to the outer face of the defensive wall. The dimensions of the tower were 3.10 x 3.60 m. The differences in the chronology of both structures were evidenced by different levels of their foundations (Fig. 14). However, the complete lack of dating archaeological materials did not allow establishing the precise absolute chronology of neither the building of the wall nor the tower (Matera *et al.*, 2022: 614). Despite the fact that on the outer side of the defensive wall, the area was investigated at a distance of 7.0 m, the presence of the defensive ditch was not recorded. It is puzzling that at the beginning of the 20th century, Goshkevich saw the rampart and a ditch on its western side on the surface of the site (Goshkevich 1913: 138, fig. 57).

The excavations carried out in Trench VI led to the discovery of the northwest corner of the main line of the fortifications (Fig. 15). In this place, the western curtain



Fig. 13. Layer of leached loess beside the outer facade of the defensive wall discovered in Trench V. Photo: M. Matera.

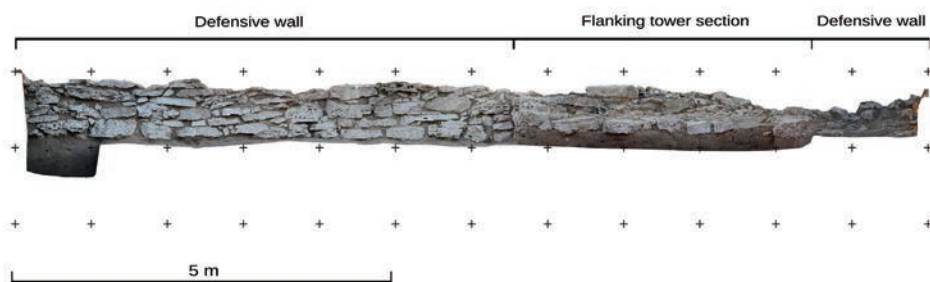


Fig. 14. Orthophotography of western facade of defensive wall and flanking tower with different levels of foundations. Photo: P. Lech.

of the defensive wall changed direction and turned east. Interestingly, the defensive wall was built here on a curving line, to the top of which a tower was added. This corresponded to the theoretical assumptions put forward by Vitruvius, who wrote: “conlocanda



Fig. 15. Aerial photograph of the Trench VI with the remains of defensive wall, flanking tower and gateway. Photo: A. Volkov.

autem oppida sunt non quadrata nec procurrentibus angulis sed circinationibus, uti hostis ex pluribus locis conspiciatur. in quibus enim anguli procurrunt, difficiliter defenditur, quod angulus magis hostem tuetur quam civem” [in English: Towns should be laid out not as an exact square nor with salient angles, but in circular form, to give a view of the enemy from many points. Defence is difficult where there are salient angles, because the angle protects the enemy rather than the inhabitants] (Vit. 1.5.2). The building technique used for construction of the wall and the tower was the same as in other places at Konsulivske hillfort. The wall of 2.20 m width was a double-faced construction with a clay and stone filling, built using large and medium-sized stones bonded with clay. The tower was rectangular in plan, measuring 3.30 x c. 4.00 m.



Fig. 16. Trench VI. The wall limiting the gate from the west. Photo: M. Matera.

Similarly to other towers discovered on the site, it has no internal room. Approximately 4 metres to the east of the tower, the gate leading to the inside of the hillfort from the north was discovered. So far, only the wall limiting the gate from the west has been discovered (Fig. 16). Therefore, it is not possible to determine the width of the gate (though the width of the gate leading to the citadel was 1.60 m, so it may be assumed that the width of the gate uncovered in Trench VI was at least the same). To the north of the gate and the tower, the presence of a defensive ditch was recorded (Fig. 17). So far only its counter-scarp dug in the virgin loess has been discovered. The total width of the ditch and its full depth are still unknown. However, by subtracting the deepest point of the ditch that has been reached so far from the foundation level of the defensive wall, its depth must have been at least 2.50 m. The uncovered section of the ditch runs along the N–S line. Towards the east, it probably turns into a natural gully that limits the hillfort from the north. It seems to continue its course towards the open steppe on the west. Neither the bend of the ditch towards the south nor the ditch in the foreground of the defensive wall on the west has been recorded. Perhaps the defensive ditch continued to the west, then turned south and further east to join the gully, limiting the site on the south. In this way, an area surrounded by a ditch and perhaps an earth rampart (with or without stone wall) would be created on the western side of the hillfort. This space could have been used as a refuge or for herds. Regardless of its function, the surrounding ditch and perhaps the rampart served as the first line of defence. Similar solutions are known from some other Late Scythian



Fig. 17. Trench VI. The counterscarp of defensive ditch. Photo: M. Matera.

hillforts on the lower Dnipro area – Annivske (Goshkevich 1913: 140, fig. 59), Kozatske (Goshkevich 1913: 119, fig. 2 and 131–132), Sablukivske (Goshkevich 1913: 139, fig. 58), and perhaps Havrylivske (Goshkevich 1913: 141, fig. 60). However, already V. I. Goshkevich noticed that the first line of defence in many Late Scythian hillforts in the lower Dnipro area could have been destroyed due to the intensive economic activity in modern times (Goshkevich 1913: 142–143).¹⁰

The archaeological materials obtained during excavations in the Konsulivske hillfort enable establishing only a general chronological framework for the site. Due to the lack of precisely dated finds, it is impossible to establish a detailed absolute chronology of the construction of individual phases of fortifications. The largest group of finds was the assemblage of fragments of hand-made pottery. The amphorae assemblages included primarily examples of containers produced from the 1st century BC to the 2nd century AD. Fragments of Vnukov CI amphorae and sub-Koan amphorae of unknown provenance prevailed in this group of material. Fragments of greyware pottery were also relatively frequent finds. The group of fine ware was represented by examples of Pergamene and Pontic pottery. Among other finds, ceramic spindle

¹⁰ Archaeological investigations of this structure carried out in the 1950s showed its natural origin (Pogrebova 1958: 174–175). However, the natural form of the relief of the terrain, in this case a longitudinal rise and a depression in front of it, could have been used as an additional line of defence, and they certainly increased the defensive value of the place where the hillfort once existed.

whorls, loom weights, bone artefacts, beads, jewellery are worth mentioning. There were also some interesting examples of the re-use of pottery fragments. Taking into account the fact that the settlement of the Konsulivske hillfort should be dated from the 1st century BC to the 1st century AD (and maybe even later), i.e., for a relatively long period (Matera *et al.*, 2022: 615), the historical interpretation of the discoveries on this site is significantly more difficult.

The Konsulivske hillfort was one of the elements of the defence system of the lower reaches of the Dnipro from its estuary on the south to the rapids on the north. A site with natural defensive values was chosen for its foundation. The river was a natural barrier on the east, and natural gullies limited the territory of the site on the north and south. The northern gully was most likely extended by digging a defensive ditch. Only the western side of the site was devoid of a natural barrier.¹¹

The defence system of the Konsulivske hillfort consisted of at least two, if not three lines of fortifications. The presence of an outer first line in the form of a defensive ditch and an earth rampart(?), with or without a stone wall, is very likely but requires archaeological confirmation. This could be partially confirmed by the results of research in Trench VI as well as the site plan made on the basis of an aerial photo by Shyshkin (Dzneladze and Sikoza 2020: 201 and 203, fig. 12.4). The second one was a main line of defence consisted of stone walls strengthened in a later period with towers. The fortifications of the citadel constituted a third line of this system.

The most important element of the fortifications of the Konsulivske hillfort were the curtains of the defensive walls both in its main part and in the citadel. These were double-faced walls with a clay and stone filling, a construction technique well-known from the Late Scythian hillforts on the lower Dnipro area and in the Crimea. Such defensive walls have been discovered at the hillforts of Annivske (Bylkova 2007a: 44), Havrylivske (Brede 1960: 193; Vetshtein 1960: 204; Gavrylyuk and Abikulova 1991: 15), Kairske (Elagina 1962: 74), Kozatske (Goshkevich 1913: 125), Liubimivske (Dmitrov *et al.*, 1961: 80), Znamenske (Pogrebova 1958: 110–114), and Zolota Balka (Viazmitina and Furmanskaya 1955: 41; Viazmitina 1962: 25–26) hillforts. Their characteristic features are irregular masonry and the lack of foundations (Koltukhov 1999: 60–61). According to Serhii Georgievich Koltukhov (1999: 61), the height of this type of walls should be calculated according to the 1:2 ratio proposed by Serhii Dmytrovych Kryzhytskyi for the Hellenistic walls of Olbia (Kryzhytskyi 1985: 142; Kryzhytskyi and Leypunskaya 1988: 27). Therefore, the walls of 2.0 to 2.60 m wide, discovered at the Konsulivske site, were originally approximately 5 m high.

The towers were another very important element of the fortification system of the Konsulivske hillfort. So far, three towers have been discovered – two

11 The location of Late Scythian hillforts in places with natural defensive values was already noted by Avksentii Pavlovich Chirkov (1867: 547).

of them strengthened the main defence line of the hillfort, and one was an element of the citadel's fortifications. All towers were rectangular in plan without internal rooms. The tower discovered in the citadel flanked the gateway. The tower discovered in Trench VI had a similar function, it was at the same time a corner tower. Both towers, in accordance with the principles of the art of fortification of the Classical world, were located to the right of the gate (Koltukhov 1999: 63). A tower flanking the gate to the citadel was also discovered at the Annivske hillfort (Gavrylyuk and Abikulova 1991: 16). At Kozatske hillfort, a gateway 1.0 m wide flanked by two towers was discovered (Goshkevich 1913: 127–128 and tab. V). The third tower known from the Konsulivske site was added to the defensive wall of western, main line of fortifications. Considering the fact that, apart from this tower, the corner tower discovered in Trench VI was a part of the same defence line, it can be assumed that, at least on the west, the fortification system of the Konsulivske hillfort was reinforced by towers. The distance between these towers was about 60 m. At the current stage of research, we are not able to say whether there were other towers between them and how many. For Late Scythian hillforts of lower Dnipro the only information on the distances between the towers is known from the Kozatske site, where they were 6 to 16 m apart (Goshkevich 1913: 127–130 and tab. V; cf., Koltukhov 1999: 63). In the fortifications of Late Scythian hillforts in Crimea the distance was more enormous – from 20 to even 75 metres (Koltukhov 1999: 63).

At the present research stage, estimating the width and depth of the defensive ditch is difficult. As mentioned above, the depth of the defensive ditch was at least 2.5 m. However, there is no evidence about its width. Some information on this subject may be provided by data from other Late Scythian hillforts in the lower Dnipro area. The data presented in Table 1 show great diversity, especially in terms of the depth of the defensive ditches. The width of the narrowest of them was 5.9 m while the widest was 14 m.

The overall picture of the fortifications of the Konsulivske site gives the impression of a well-thought-out and planned system. However, a closer look at the construction technique shows a certain carelessness, for example in the vertical deviation of defensive walls, which resulted in the need to support their facades. Structures serving as buttresses were discovered in Trenches II and V. It is difficult to say what caused this situation. It cannot be ruled out that the diligence of the construction works was influenced by the haste of the builders or lack of necessary technical knowledge. However, it is worth noting that several interesting solutions were used during the construction of the fortifications of the Konsulivske hillfort, such as the use of loess plaster and the building of defensive walls on the substructures in a shape of low earthen banks.

The use of loess plaster covering the outer facades of defensive walls registered in Trenches II, V and VI was intended to protect the wall from weather conditions,

Table 1. Depth and width of defensive ditches discovered on Late Scythian hillforts in the lower Dnipro area.

Site	Width of defensive ditch	Depth of defensive ditch	References
Annivske	6 m	3.7 m	Gavrylyuk 2013: 552
Annivske	11.5 m	2 m	Bylkova 2007a: 44
Chervonyi Maiak	no data	4.25 m	Gavrylyuk 2013: 556
Havrylivske	7–8 m	up to 2m	Brede 1960: 193
Havrylivske	9.5 m	2.5–3 m	Pogrebova 1958: 176; Gavrylyuk 2013: 552
Havrylivske	13–14 m	up to 3 m	Vetshtein 1960: 206
Kairske	5.9 m	3.2 m	Elagina 1962: 74
Kozatske	no data	up to 3 m	Goshkevich 1913: 130
Liubimivske	no data	6 m	Dmitrov <i>et al.</i> , 1961: 81
Znamenske	11–11.5 m	3–3.2 m	Pogrebova 1958: 114
Znamenske	8 m	1.3 m	Gavrylyuk 2013: 543

especially from the adverse influence of water (water percolation) and low temperature (freezing). It is puzzling, however, that only the outer faces of the defensive walls were secured in this way. Perhaps the function of this solution was therefore completely different. Similar praxis is, however, known in Late-Scythian hillforts in Crimea, where the traces of leached clay mixed with stone debris were recorded near the defensive walls. In the opinion of S. G. Koltukhov, it should be interpreted as examples of coating the facades of defensive walls with clay plaster (Koltukhov 1999: 50).

Other examples of setting defensive walls on banks of earth are known from several Late Scythian hillforts located along the lower Dnipro. This situation has been met at Annivske (Gavrylyuk and Abikulova 1991: 15; Gavrylyuk 2013: 552; Gavrylyuk and Matera 2016: 124), Chervonyi Maiak (Gavrylyuk and Olenkovskiy 1992: 44; Gavrylyuk 2013: 556),¹² Havrylivske (Brede 1960: 193; Gavrylyuk 2013: 552), Kozatske (Gavrylyuk 2013: 556; Gavrylyuk and Matera 2016: 124) and Znamenske (Gavrylyuk and Abikulova 1991: 24, see also: Gavrylyuk 2013: 543). The use of this

¹² The authors provide this information citing V. I. Goshkevich's work. However, in his description of Chervonyi Maiak (Goshkevich 1913: 135) only the wall is mentioned: "[...] the wall rises above the ground level by 2.13 m".

practice on the territory of Konsulivske hillfort is therefore no exception. This type of solution was often used when the defensive wall could not be built on the stable surface (Lawrence 1979: 202–203). This is exactly the case of the fortifications of the Konsulivske site, where the virgin soil is a layer of loess. Furthermore, the use of earthen banks as the substructure for defensive walls was supposed to protect its construction from sliding into the direction of the defensive ditch (Blavatskiy 1954: 94–95). In the case of the Konsulivske site, this could protect the walls from slipping towards the valley of the Dnipro. The surface of the site, especially in its eastern part, is characterized by a steep slope towards the river.

An important conclusion from the archaeological research at the Konsulivske site is that the area of the citadel was separated and fortified later than the main part of the hillfort. This is evidenced by the discovery of two pits (5/2017 and 2/2018) cut by the drainage ditch surrounding the citadel. Due to the lack of precisely dated materials, it is not possible to determine the absolute chronology of this event. Perhaps it took place at the same time as the reinforcing of the main defence line by the addition of towers, and it was part of a wider action to increase the defensive capabilities of the hillfort.

Based on the results of the research conducted so far, it can be concluded that the fortifications of the Konsulivske hillfort constituted a well-planned defence system consisting of at least two lines of fortifications. Each of them was made of a defensive wall reinforced with towers. The main line of fortifications additionally had an external defensive ditch. However, a few key points and several specific issues still need to be clarified. One of the most crucial questions concerns the presence and potential form of the third line of defence. The absolute chronology of the individual phases of the construction of fortifications also requires clarification and further investigations. The same applies to the question of the influence on the Late Scythian hillforts of the thought in the Classical world on the topic of fortification. Certain elements show a striking resemblance to the fortifications of Olbia (Pogrebova 1958: 242; Viazmitina 1962: 105; Wąsowicz 1975: 111).

REFERENCES

- Abikulova, M. I. and Bylkova, V. P. 1994. K probleme kul'turnogo sootnosheniya pozdneskifskikh gorodishch Nizhnego Dnepra i poseleniy sel'skoy okrugii Ol'vii rimskogo vremeni. In E. V. Yarovoy (ed.), *Drevneyshie obshchnosti zemledel'tsev i skotovodov Severnogo Prichernomor'ya V tys. do n.e. – V v. n.e. Materialy Mezhdunarodnoy arkheologicheskoy konferentsii 10–14 oktyabrya 1994 g.*, 236–238. Tiraspol.
- Abramova, M. P. 1962. Vzaimootnosheniya sarmatov s naseleniem pozdneskifskikh gorodishch Nizhnego Dnepra. In K. F. Smirnov (ed.), *Pamyatniki skifo-sarmatskoy kul'tury*, 274–283. Materialy i issledovaniya po arkheologii SSSR 115.

- Alexandrowicz, S. 1965. Mapa Wielkiego Księstwa Litewskiego Tomasza Makowskiego z 1613 r. tzw. „radziwiłłowska”, jako źródło do dziejów Litwy i Białorusi. *Studia Źródłoznawcze. Commentationes* 10: 33–67.
- Alexandrowicz, S. 1968. Pierwsze zaginione wydanie radziwiłłowskiej mapy Wielkiego Księstwa Litewskiego. *Kwartalnik Historii Kultury Materialnej* 16(3): 539–545.
- Alexandrowicz, S. 1978. Ziemie ruskie w kartografii polskiej XVI–XVII wieku. *Studia Źródłoznawcze. Commentationes* 23: 107–116.
- Blavatskiy, V. D. 1954. *Ocherki voennogo dela v antichnykh gosudarstvakh Severnogo Prichernomor'ya*. Moskva.
- Brede, K. A. 1960. Rozkopky Havrylivskoho horodyshcha rubezhu nashoi ery. In V. M. Danylenko, O. F. Lagodovska and A. I. Furmanska (eds), *Doslidzhennia na terytorii Kakhovskoho vodoimyscha. Rezultaty robot Nikopolsko-havryliuskoï ekspedytzii, Arkheolohichni pamiatky URSR*, vol. 9, 191–203. Kyiv.
- Bylkova V. P. 1998. Do problemy vziavkiv i zminy kultur naselennia Nizhnogo Podniprov'ia v antychnu epokhu. *Arkheologiiia* 3: 113–121.
- Bylkova, V. P. 2000. Poseleniya na Nizhnem Dnepre v aspekte skifo-ellinskikh otnosheniy (rubezh V–IV vv. do n.e. – III v. n.e.). *Arkheologicheskie vesti* 7: 125–139.
- Bylkova, V. P. 2002. O khronologii i kul'ture pozdneskifskikh gorodishch Nizhnego Dnepra. In E. V. Yarovoy (ed.), *Drevneyshie obshchnosti zemledel'tsev i skotovodov Severnogo Prichernomor'ya V tys. do n.e. – V v. n.e. Materialy III Mezhdunarodnoy konferentsii Tiraspol, 5–8 noyabria 2002 g.*, 309–312. Tiraspol.
- Bylkova, V. P. 2005. The Chronology of Settlements in the Lower Dnipro Region (400–100 BC). In V. F. Stolba and L. Hannestad (eds), *Chronologies of the Black Sea Area in the Period c. 400–100 BC*, 217–247. Aarhus. Black Sea Studies 3.
- Bylkova, V. P. 2007a. *Nizhnee Podneprov'e v antichnuyu epokhu (po materialam raskopok poseleniy)*. Kherson.
- Bylkova, V. P. 2007b. Pozdneskifskie gorodishcha Nizhnego Dnepra: problemy khronologii i atributsii. *Tyragetia* I(16): 89–114.
- Bylkova, V. P. 2010. K probleme vzniknoveniya pozdneskifskoy kul'tury na Nizhnem Dnepre. *Bosporskie issledovaniya* 23: 411–423.
- Chirkov, A. P. 1867. Kratkiy ocherk gorodishch, nakhodyashchikhsya po Dnepru i ego limanu. *Zapiski Odesskogo obshchestva istorii i drevnostey* 6: 546–550.
- Dashevskaya, O. D. 1989. Pozdnie skify (III v. do n.e. – III v. n.e.). In A. I. Melyukova (ed.), *Stepi evropeyskoy chasti SSSR v skifo-sarmatskoe vremia*, 125–145. Moskva.
- Dmitrov, L. D., Zuts, V. L. and Kopylov, F. B. 1961. Liubymivske horodyshche rubezhu nashoi ery. In S. M. Bibikov (ed.), *Arkheolohichni pamiatky URSR, vol. 10*, 78–100. Kyiv.
- Dzneladze, E. S. and Sikoza, D. N. 2020. Oboronitel'nye sooruzheniya pozdnykh skifov Nizhnego Dnepra. *Arkheologiiia i davnia istoriia Ukrainy* 3(36): 191–213.
- Elagina, N. G. 1962. Novoe pozdneskifskoe gorodishche na Nizhnem Dnepre. *Kratkie soobshcheniya Instituta arkheologii AN SSSR* 89: 74–76.
- Gavrylyuk, N. A. 2009. Frakiytsy v Nizhnem Podneprov'e (po materyalam Zolotobalkovskogo poseleniya). In V. P. Kopylov (ed.), *Mezhdunarodnye otnosheniya v bassejne Chernogo morya v skifo-antichnoe i khazarskoe vremia*, 169–185. Rostov-na-Donu.
- Gavrylyuk, N. A. 2013. *Ekonomika stepnoy Skifii VII–III vv. do n. e.* Kyiv.
- Gavrylyuk, N. A. and Abikulova, M. I. 1991. *Pozdneskifskie pamyatniki Nizhnego Podneprov'ya (novye materialy)*. Preprint, part 1. Kyiv.
- Gavrylyuk, N. A. and Krapivina, V. V. 2005. Nizhne dneprovskie gorodishcha (k probleme

- voznikoveniya i razvitiya). In V. N. Zin'ko (ed.), *Bospor Kimmeriyskiy i varvarskiy mir v period antichnosti i srednevekov'ya. Periody destabilizatsiy, katastrof*, 66–73. Kerch. Bosporskie chteniya 6.
- Gavrylyuk, N. A. and Krapivina, V. V. 2007a. Postsifikskie gorodishcha Nizhnego Podneprov'ya i Ol'viya. In *Drevnosti Severnogo Prichernomor'ya v antichnoe vremya*, 52–65. Simferopol. Materialy po arkheologii, istorii i etnografii Tavrii, Supplementum 4.
- Gavrylyuk [Gavrylyuk], N. A. and Krapivina, V. V. 2007b. Lower Dnipro Hillforts and the Influence of Greek Culture (2nd Century BC – 2nd Century AD). In D. V. Grammenos and E. K. Petropoulos (eds), *Ancient Greek Colonies in the Black Sea 2*, vol. I, 563–590. Oxford. British Archaeological Reports International Series 1675 (I).
- Gavrylyuk, N. O. and Matera, M. 2016. “Piznoskifski” chy “postskifski” gorodishcha Nizhnoho Podniprov'ia. *Arkheologiya* fasc. 4: 121–135.
- Gavrylyuk, N. O. and Olenkovskiy, M. P. 1992. *Pamiatky Skifiv*. Kherson. Arkheologichna karta Nyzhnodniprovskoho rehionu 5.
- Gey, O. A. and Bazhan, I. A. 1990. K voprosu o vremeni voznikoveniya pozdneskifskoy kul'tury po materialam mogil'nika u s. Krasnyy Mayak. In A. I. Meliukova (ed.), *Problemy skifo-sarmatskoy arkheologii*, 134–139. Moskva.
- Goshkevich, V. I. 1912. *Letopis' muzeya za 1909, 1910 i 1911 gg.* Kherson. Khersonskiy gorodskoy muzey drevnostey 2.
- Goshkevich, V. I. 1913. Drevniya gorodishcha po beregam' Nizovago Dnepra. *Izvestiya Imperatorskoy Arkheologicheskoy Komissii* 47:117–145.
- Goshkevich, V. I. 1915. *Letopis' muzeya za 1913 god.* Kherson. Khersonskiy gorodskoy muzey drevnostey 5.
- Gudkova, A. V. 1998. Ob izuchenii pozdneskifskoy kul'tury v prichernomorskikh stepyakh. In B. A. Raev (ed.), *Antichnaya tsivilizatsiya i varvarskiy mir (Materialy 6-go arkheologicheskogo seminara) (chast' 1)*, 37–40. Krasnodar.
- Koltukhov, S. G. 1999. *Ukrepleniya Krymskoy Skifii*. Simferopol.
- Krapivina, V. V. 1993. *Ol'viya. Materialnaya kul'tura I–IV vv. n.e.* Kyiv.
- Kryzhytskiy, S. D. 1985. *Ol'viya. Istoriograficheskoe issledovanie arkhitekturno-stroitel'nykh kompleksov*. Kyiv.
- Kryzhytskiy, S. D. and Leypunskaya, N. A. 1988. Kompleks zapadnykh vorot Ol'vii. In V. A. Anokhin (ed.), *Antichnye drevnosti Severnogo Prichernomor'ya*, 10–32. Kyiv.
- Lawrence, A. W. 1979. *Greek Aims in Fortification*. Oxford.
- Lech, P. 2019. *Zastosowanie analizy widoczności w archeologii. Studium na przykładzie sieci grodzisk późnoscytyjskich z rejonu dolnego Dniepru*. Master of Science Thesis. Akademia Górniczo-Hutnicza, Kraków.
- Matera, M., Bogatskiy [Bogacki], M. and Malkovskiy [Małkowski] V. 2017. Neinvazivnye i arkheologicheskie issledovaniya pozdneskifskogo/postskifskogo Konsulovskogo gorodishcha. *Arkheologiya* fasc. 2: 125–138.
- Matera, M., Gavrylyuk, N., Nykonenko, D. and Lech, P. 2022. Some remarks about Konsulovskoe, a lesser-known Late Scythian hillfort on the Lower Dnipro. In J. Boardman, J. Hargrave, A. Avram and A. V. Podossinov (eds), *Connecting the Ancient West and East. Studies presented to Prof. Gocha R. Tsetskheladze*, vol. I, 611–632. Leuven.
- Merczyng, H. 1913. Mapa Litwy z r. 1613 ks. Radziwiłła Sierotki pod względem matematycznym i kartograficznym (Jubileusz 300-letni wydanej pracy na polu matematyki stosowanej). *Sprawozdania z posiedzeń Towarzystwa Naukowego Warszawskiego. Wydział Nauk Matematycznych i Przyrodniczych* 6.6: 416–442.
- Myshetskiy, S. I. 1851. *Istoriya o kazakakh zaporozhskikh, kak onye izdrevle zachalisya, i otkuda svoe proiskhozhdenie imieyut, i v kakom sostoyanii nyne nakhodiatsia, sochinennaya ot inzhenernoy komandy*. Odesa.

- Nykonenko, D. D. 2015. Piznoskifskie Konsulovske horodyshche. *Arkheologiiia* fasc. 1: 91–99.
- Nykonenko, D. and Matera, M. 2019. Doslidzhennia Konsulovskoho horodyshcha. In IU. V. Boltrik (ed.), *Arkheologichni doslidzhennia v Ukraini 2017*, 281–283. Kyiv.
- Nykonenko, D., Matera, M., Bogacki, M., Małkowski, W. and Lech, P. 2018a. Konsulivske hillfort, Ukraine. Non-invasive Survey in 2015 Season. *Światowit* 13–14 (54–55): 381–388.
- Nykonenko, D., Matera, M., Gavryluk [Gavrylyuk], N. and Lech, P. 2018b. Konsulivske hillfort, Ukraine. 2016 Season. *Światowit* 13–14 (54–55): 389–392.
- Pogrebova, N. N. 1958. Pozdneskifskie gorodishcha na Nizhnem Dnepre (Gorodishcha Znamenskoe i Gavrilovskoe). In K. F. Smirnov (ed.), *Pamyatniki skifo-sarmatskogo vremeni v Severnom Prichernomor'e*, 103–247. Moskva. Materialy i issledovaniya po arkheologii SSSR 64.
- Polin, S. V. 1992. *Ot Skifii k Sarmatii*. Kyiv.
- Polin, S. V. 2017. Sarmatskoe zavoevanie Severnogo Prichernomor'ya (sovremennoe sostoyanie problemy). *Arkheologiya evraziyskikh stepey* 3: 224–243.
- Popova, E. A. 2011. Pozdneskifskaya kul'tura: istoriya izucheniya, problemy, gipotezy. *Vestnik Moskovskogo universiteta. Seriya 8. Istoriya* 1: 136–146.
- Shul'ts, P. N. 1971. Pozdneskifskaya kul'tura i ee varianty na Dnepre i v Krymu. In P. D. Liberov and V. I. Gulyaev (eds), *Problemy skifskoy arkheologii*, 127–143. Moskva. Materialy i issledovaniya po arkheologii SSSR 177.
- Symonenko, A. V. 2016. O proiskhozhdenii pozdneskifskoy kul'tury Nizhnego Dnepra. *Starodavne Prychornomoria* 11: 476–483.
- Symonenko, A. V. 2020. Pozdnie skify i sarmaty na Nizhnem Dnepre: novye dannye k probleme vzaimootnosheniy. *Arkheologicheskoe nasledie* 1(3): 304–316.
- Symonenko, A. V. 2021. Late Scythian Necropolis Chervony Mayak: 10 Years of Exploration. *Journal of Ancient History and Archaeology* 8(1): 69–86.
- Symonenko, O. V., Sikoza, D. M. and Dzeladze, O. S. 2015. *Piznoskifskiy mohyl'nyk Chervonyi Maiak. Doslidzhennia 2011–2015 rokiu*. Kherson.
- Symonenko, A. V. and Sikoza, D. N. 2020. Terminus ante quem pozdneskifskoy kul'tury Nizhnego Dnepra. In M. Lyubichev and K. Myzgin (eds), *Inter Orientem et Occidentem. Sammelband zum 65. Geburtstag von Frau Doktor Erdmute Schultze und 20 Jahre der Germanisch-Slawischen archäologischen Expedition*, 288–301. Kharkiv. Ostrogothica 3.
- Symonovich E. A. 1971. Kul'tura pozdnykh skifov i chernyakhovskie pamyatniki v Nizhnem Podneprov'e. In P. D. Liberov and V. I. Gulyaev (eds), *Problemy skifskoy arkheologii*, 63–75. Moskva. Materialy i issledovaniya po arkheologii SSSR 177.
- Vetshtein, R. I. 1960. Rozkopky vnutrishnoi linii oboronnykh sporud Havrylivskoho horodyshcha. In V. M. Danylenko, O. F. Lagodovska and A. I. Fyrmanska (eds), *Doslidzhennia na terytorii Kakhovskoho vodoimys'ha. Rezultaty robit Nikopolsko-havrylivskoi ekspedytzii, Arkheolohichni pamiatky URSS*, vol. 9, 204–209. Kyiv.
- Vinogradov, IU. G. 1989. *Politicheskaya istoriya ol'viyskogo polisa VII–I vv. do n.e. Istoriko-epigraficheskoe issledovanie*. Moskva.
- Viazmitina, M. I. 1962. *Zolota Balka. Poselennia sarmatskoho chasu na Nizhnomu Dnipro*. Kyiv.
- Viazmitina, M. I. and Furmanska [Furmanska], A. I. 1955. Raskopki poseleniya u s. Zolotaya Balka v 1953 i 1954 gg. *Kratkie soobshcheniya Instituta arkheologii AN USSR* 5: 41–45.
- Vyaz'mitina [Viazmitina], M. I. 1969a. Kul'tura naseleniya Nizhnego Dnepra posle raspada edinoi Skifii. *Sovetskaya Arkheologiya* fasc. 4: 62–77.
- Vyaz'mitina [Viazmitina], M. I. 1969b. Frakiyskie elementy v kul'ture naseleniya gorodishch Nizhnego

- Dnepra. In T. D. Zlatkovskaya and A. I. Melyukova (eds), *Drevnie frakiytsy v Severnom Prichernomor'e*, 119–134. Moskva. Materialy i issledovaniya po arkheologii SSSR 150.
- Vyaz'mitina [Viazmitina], M. I. 1972. *Zolotobalkovskiy mogil'nik*. Kyiv.
- Vyaz'mitina [Viazmitina], M. I. 1986. Gorodishcha Nizhnego Dnepra. In S. D. Kryzhytskyi (ed.), *Skifo-sarmatskaya i antichnaya arkheologiya*, 223–240. Kyiv. *Arkheologiya ukrainskoy SSR*, vol. 2.
- Wąsowicz, A. 1975. *Olbia Pontique et son territoire. L'aménagement de l'espace*. Paris. Annales Littéraires de l'Université de Besançon 168.
- Yastrebov, V. M. 1894. Opyt topograficheskogo obozreniya drevnostey Khersonskoy gubernii. *Zapiski Odesskogo obshchestva istorii i drevnostey* 17: 63–176.

Roman Coins in the Northern Black Sea Littoral Region: the Cherniakhiv Culture Perspective

Kyrylo Myzgin^a

The article analyses the finds of Roman coins, and their imitations and copies found in the Cherniakhiv culture area in the Northern Black Sea Littoral region. There are several peculiarities of their distribution: the almost complete absence of hoards of Roman denarii or their copies and imitations; a small number of finds of antoniniani, Roman provincial coins, aurei, gold and gold-plated imitations and solidi; a considerable spread of single finds of Roman Imperial denarii and late Roman bronze issues, the presence of siliqua finds. All of these distinguish this region from other areas of the Cherniakhiv culture, which may be due to several different reasons.

KEY-WORDS: Roman coin finds, hoards, Cherniakhiv culture

This article is devoted to analysing the finds of Roman coins outside the ancient centres in the Northern Black Sea Littoral region. As in any attempt at conducting a regional study in archaeology there is the issue of the very subjective grounds on which the boundaries of the study area are defined (for example, they can be modern administrative units or ethnographic regions).¹ In the past, a number of attempts have been made to define separate areas within the wider zone of the Cherniakhiv culture. For example, as early as 1957, Mariya Tikhanova defined five local variants of the Cherniakhiv culture (Tikhanova 1957). Local groups and microregions of the culture were also defined by Evgeniya Makhno (1970a; 1970b), Volodymyr Baran (Baran 1981: 163–165), and Oleh Prykhodniuk (1994: 65–67). One of the most recent attempts at such zoning was made by Borys Magomedov two decades ago, proposing nine regions of the Cherniakhiv culture (Magomedov 2001: 18). My research will concentrate on the territorial boundaries that Magomedov

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¹ I have touched on this issue in more detail in a study of Roman coin finds from Volyn (Myzgin 2019c: 30).

defined for the “Northern Black Sea”.² At the same time, I should stress that I am primarily interested in the finds associated with the barbarian contexts.

Another problem of a purely methodological nature relates to the quality of the source base used in this article. The present study would be far from complete and objective if it were based only on previously published finds of Roman coins, including those originating only from the few (especially in recent years) archaeological studies of Late Roman sites in the region. I have also used coin finds found by amateurs, either accidentally or those deliberately hunting for artefacts with the help of metal detectors. As is well known, the “era of the metal detector” in archaeology has radically changed our ideas about the quantity and variety of metal artefacts found on Late Roman sites in Eastern Europe. The collection of similar data on the finds of ancient coins in the territory of Ukraine has increased the databases on various categories of coins threefold and sometimes tenfold (see below for more details).

Nevertheless, the active use of the newest material is currently hindered by the low quality of the information available, and not in all cases can such information be verified. As a rule, information obtained from open sources (treasure-hunting forums or social networks) rarely contains information about the exact location of finds (at best, the administrative region can be clarified), the available images of coins are not often of a particularly high quality. Therefore, data of such low reliability can only serve as a source of additional information, subject to critical evaluation, though they can allow a more objective assessment of trends in the distribution and number of findings.

The history of the studies of Roman coin finds in barbarian contexts in the territory of the Northern Black Sea Littoral region is not particularly substantial. For example, the article by Aleksandr Zograf devoted to the monetary circulation of the Northern Black Sea Region focused only on Greek coinage in this area, whereas the Roman coin finds were not taken into account (Zograf 1955). The same is in the monograph by Piotr Karyshkovskiy, who also focused mainly on coin production (1988). These authors practically do not mention the coin finds in the region outside of ancient contexts.³ The authors of the catalogues of finds in the territory of Eastern Europe, Vladislav Kropotkin (1961) and Mykhailo Braichevskiy (Braichevskiy 1959), did not pay much attention to this region either.

A few paragraphs on the Roman coin finds from the barbarian contexts in the Northern Black Sea Littoral region were devoted in Borys Magomedov’s

2 “The Northern Black Sea Region occupies the coastline between the mouths of the Dnister and Dniro rivers – an area of the “Black Sea type” of sites (Magomedov 2001: 18). In earlier publications, Magomedov called this region “North-Western Black Sea Region” (cf., Magomedov 1987).

3 P. Karyshkovskiy devoted one paragraph to such findings. Cf: Karyshkovskiy 1988: 117–118.

monograph (Magomedov 1987: 77–79). However, these observations could be better described as general observations of the coin circulation on the territory of the entire Cherniakhiv culture rather than on the region of interest only. The monograph by Elena Stolyarik (Stolyarik 1992; also published in English: Stolyarik 1993), has the most significant connection with the Northern Black Sea Littoral region. For its time, it presents an impressive analysis of finds of Late Roman and early Byzantine coins from here, as well as a comparison with finds from the neighbouring Dobrudja region. In general, however, the study of Roman coin finds related to barbarian contexts in the Northern Black Sea Littoral region leaves much to be desired.

In Southeastern Europe, Roman coins are represented by almost all the main denominations of the Roman Imperial period. The vast majority of these are 1st–2nd century denarii (68%), but antoniniani (7%), 2nd–3rd century Roman provincial coins (12%) and bronze issues of the 4th – first half of the 5th centuries (5%) are also represented (cf., Myzgin 2018b: 87). In the case of any discussion of the statistical distribution of Roman coin finds in the Northern Black Sea Littoral region (without taking into account finds from Olbia, Tyras, Nikonion and their neighbourhood), we can, unfortunately, still operate only with old data because newer information from here is not systematically taken into account. The data in question are those contained in the work of Mykhailo Braichevskyi (Braichevskyi 1959), Vladislav Kropotkin's (1961; 1966; 2000) and Elena Stolyarik's catalogues (1984; 1992; 1993). Moreover, in the catalogue of my PhD thesis (Myzgin 2010), there are also data on a few unpublished single finds known from the region at that time. In total, the current statistics refer to 158 finds of Roman coins, originating from single finds and hoards. As in the rest of Southeastern Europe, Roman imperial denarii make up the majority of finds in the Northern Black Sea Littoral region (53%), followed by Late Roman bronze coins (24%), and then, in much smaller numbers, antoniniani (9%), the Roman provincial coins of the 2nd–3rd centuries (4%), siliquae and official bronze denominations of the 1st–2nd centuries (3% each), aurei, solidi and imitations of Roman coins (1% each; Fig. 1). Of course, these statistics are very far from an objective reality (these figures can be verified only by massive registration of the newest materials), however, in my opinion, they give an some idea of specific trends in their distribution. We may examine each of these categories in more detail.

As noted above, the main group of Roman coin finds represented are the **Roman imperial denarii**. Their influx to the region is most probably connected with the arrival into Southeastern Europe at the beginning of the 3rd century of the Wielbark culture and possibly also of the population of the Przeworsk culture, who would have brought these coins from the territory of Central Europe. There they, in their turn, received them as a result of the Marcomannic Wars (for details, see: Myzgin 2013: 221–223; Dymowski and Myzgin 2014; Myzgin 2019b). Single finds of denarii

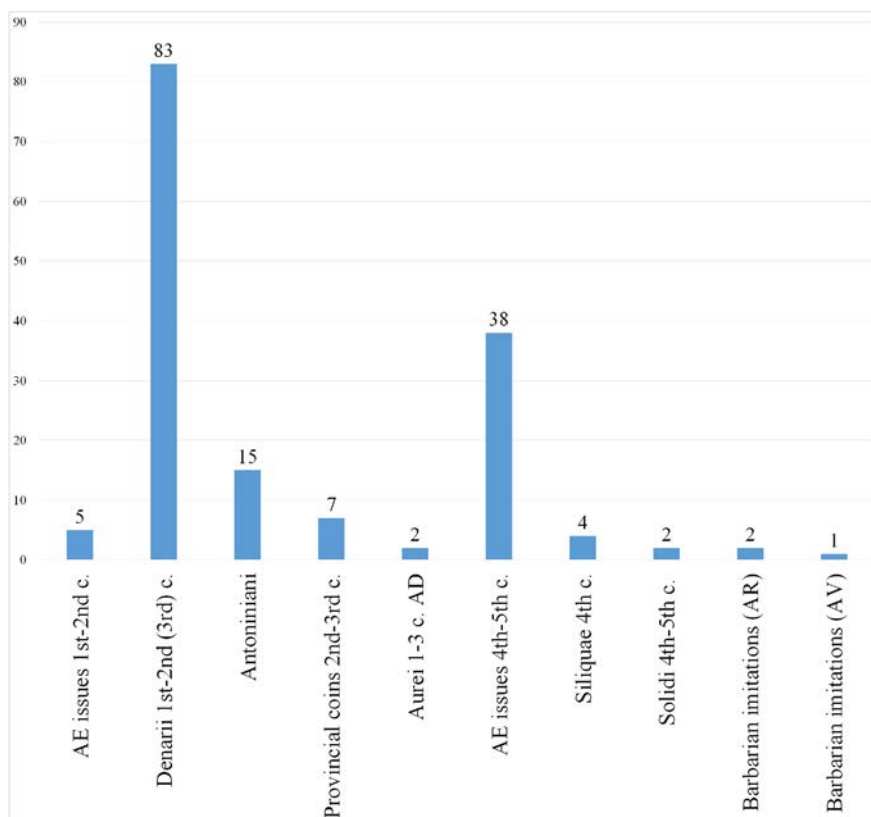


Fig. 1. Roman coin finds from the North Black Sea Littoral region, related to the Cherniakhiv culture area: published data (on the basis of Braichevskiy 1959; Kropotkin 1961; 2000; Stolyarik 1984; 1992; Myzgin 2010; Anokhin 2015).

(Myzgin 2013: 220, fig. 2: I) are widespread in all regions of the Cherniakhiv culture, including the Northern Black Sea Littoral region (Fig. 2). The situation, however, is fundamentally different in the case of denarii hoards: they are concentrated mainly in the forest-steppe zone, while in the Northern Black Sea Littoral region, especially in its southern part, there are practically none (Fig. 3). The exception is comprised by just four deposits. One hoard was found no earlier than the mid-twentieth century in the vicinity of ancient Tyras in the Odesa Oblast, in the “Popushnaia landing” area: it contained at least twenty coins from Vespasian to Commodus (Kropotkin 1961: 70, no. 742). The other example is an unpublished hoard found in 2016 from the vicinity of Kobleve village in the Mykolaiv Oblast. Another hoard was allegedly found in the vicinity of the town Snyhurivka in the Mykolaiv Oblast, but only one

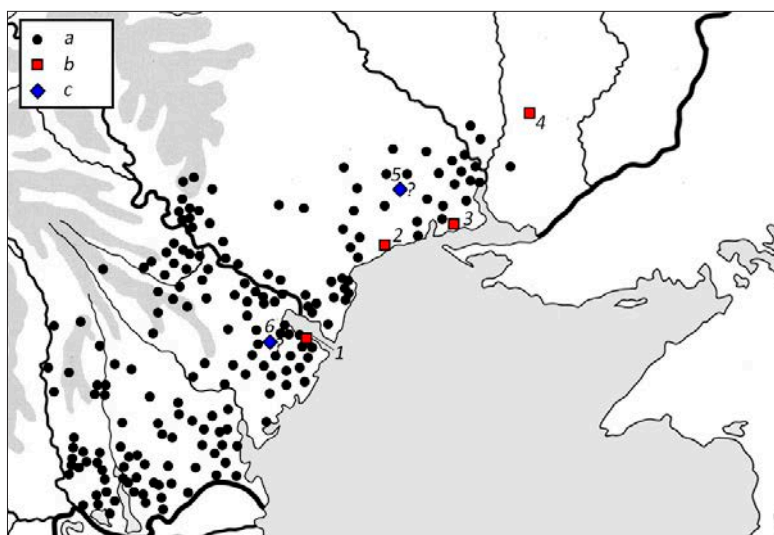


Fig. 2. Finds from the North Black Sea Littoral region of Roman Imperial denarii and their imitations (after: Myzgin 2010; Anokhin 2015; with some additions).

a – single finds; b – finds of Roman Imperial denarii hoards, mentioned in the text of article;

c – finds of imitations of Roman Imperial denarii.

1 – Bilhorod-Dnistrovskiyi (environs); 2 – Kobleve; 3 – Dmytrivka; 4 – Snyhurivka; 5 – Bilhorod-Dnistrovskiyi district (without precise location); 6 – Mykolaiv district (without precise location).

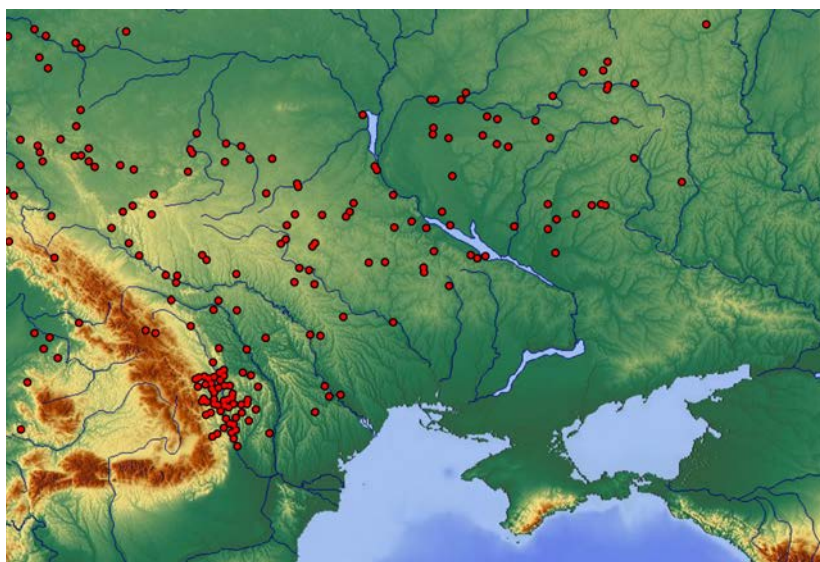


Fig. 3. Finds of Roman Imperial denarii hoards from South-East Europe (detail extracted from Dymowski *et al.*, 2020, map 1).

coin of Marcus Aurelius has been preserved (Kropotkin 1961: 69, no. 733). However, it is not entirely sure that this was a hoard. Another hoard was discovered in 2021 in the vicinity of the Dmytrivka village, also in the Mykolaiv Oblast. It contained ten denarii issued between the reigns of Nero and Marcus Aurelius and could be associated with the nearest ancient settlements of Yaselka or Petukhivka 2 (Stolba and Peter 2021: 223–232). Thus the hoards from the vicinity of Tyras and near the village of Dmytrivka could very likely be associated with the contexts of ancient cities, the hoard from Snyhurivka is questionable, while the hoard from Kobleve, which may well have had a barbaric context, belongs to the low confidence finds.

A logical question arises: why, despite the significant amount of single finds of denarii in the Northern Black Sea Littoral region, is there almost no information about their deposition in hoards related to the barbarian context? It is not very likely that the lack of denarii hoards in the steppe area of the Cherniakhiv culture can be explained by insufficient research – this area has a relatively long history of archaeological studies. It is also unlikely that it could be connected with any local tribal tradition (considering the considerable presence of the Late Sarmatian and Late Scythian population), which might have suggested the absence of a tradition of hoarding coins. It is also doubtful that the local Cherniakhiv culture population lacked enough denarii for hoarding. The existence of single finds shows the opposite: enough coins were used here, allowing some to be lost and falling into the ground. There is even one case of a denarius found in a Cherniakhiv culture grave inventory (Grave 25 of the Kobleve cemetery: Symonovich 1979: 90). Consequently, the stock of Roman denarii would also have been sufficient to hide at least small deposits. Possibly, the explanation of the phenomenon of the lack of hoards of denarii in the Northern Black Sea Littoral region should be sought in the nature of the coin hoards in the Cherniakhiv culture, about which we do not know much. It is not entirely clear whether these hoards were deposits of individual wealthy representatives of a barbarian society or whether they were communal wealth. We should also remember that in Barbaricum, the making of non-retrievable (votive) deposits was practised. For example, such hoards are well known as bog deposits in Northern Barbaricum (cf., Bursche 2011). However, was this practice applied in the Cherniakhiv culture?

In my opinion, the fact that so few denarii hoards have been found in the Northern Black Sea Littoral region may indicate that their owners managed to remove them from the ground in time. When this happened and what the fate of these coins was, can only be a matter of speculation. It may be supposed that this was connected with the arrival of the Huns in the Northern Black Sea Littoral region at the end of the fourth century: here, their traces are clearly visible enough, unlike the forest-steppe areas (cf., Petrauskas 2021: 16, fig. 1). So the coin deposits could have been removed from the ground shortly before the nomads arrived and taken away together with the Cherniakhiv

population who left the area. As an alternative hypothesis, the Roman silver could have been given to the Huns as tribute. However, both versions are so far extremely hypothetical and require careful verification. On the other hand, it raises the question, why so many hoards been discovered in the Cherniakhiv culture forest-steppe zone have been discovered. The Hunnish invasion did not directly affect this region, i.e., there was no direct threat (cf., Petrauskas 2021: 26). What kind of catastrophe that neither found its way into the written sources nor the archaeological record would have been the reason why the owners of the coin deposits did not come for them? Answers to all these questions remain to be sought in the future.

No earlier than the mid-3rd, or more likely at the turn of the 3rd and 4th centuries, the population of Cherniakhiv culture imitated Roman imperial denarii (Dymowski and Myzgin 2021: 200–205) or copied them (Dymowski 2021; Awianowicz *et al.*, 2022). The main concentration of **imitations of Roman denarii** is in the area between the upper reaches of the South Buh River and the middle reaches of the Dniester River (cf., Dymowski and Myzgin 2021: 203), and in the Northern Black Sea Littoral region, their existence is a kind of exception. Unfortunately, most of the information on finds of imitations of denarii is very general as to their exact localization: often, it is restricted to the name of an administrative region. In Oleh Anokhin's catalogue, there is information on 14 finds of imitations of Roman imperial denarii from the Odesa Oblast (Anokhin 2015: nos. 6, 84, 184, 239, 336, 415, 443, 767, 897, 913, 990, 1032, 1080) and three from the Mykolaiv Oblast (Anokhin 2015: nos. 29, 575, 1053). They all imitate issues of official Roman denarii of the Antoninus dynasty period. However, whether they were found in the steppe part of these Oblasts or in their north remains mostly unknown. Theoretically, only two finds can be associated with the Northern Black Sea Littoral region: the Bilhorod-Dnistrovskyi district of the Odesa Oblast (Fig. 4: 1; Anokhin 2015: no. 443) and the Mykolaiv district of the Mykolaiv Oblast (Fig. 4: 2; Anokhin 2015: no. 575). As for finds of **copies of Roman imperial denarii** (plated and cast base metal-alloy coins) in the Northern Black Sea Littoral region, no statistics on these are available, nor is there information about their finds here, although, taking into account their general distribution, they are to be expected in this area.

From the data collected by Vladislav Kropotkin, we know about a few single finds of **antoniniani** in the south part of the Odesa Oblast (Fig. 5). We should mention discovery of an antoninianus of Philip the Arab (for Otacilia Severa) from the Stara Bohdanivka village (Kropotkin 2000: 55, no. 2328), antoniniani of Philip the Arab (for Otacilia Severa), Decius and Gallienus (for Salonina) from the vicinity of the village of Roksolany⁴ (Kropotkin 2000: 35–36, nos. 1905, 1907), and an

4 It is well known that the ancient town of Nikonion was situated near the modern village of Roksolany. However, there was also a settlement of the Cherniakhiv culture in the same vicinity (cf., Gudkova 1999: 306, fig. 1: 20).



Fig. 4. Barbarian imitations from the North Black Sea Littoral region (without scale; after: Anokhin 2015).

1 – an imitation of a denarius from the Odesa Oblast (Anokhin 2015, no. 443/ar); 2 – an imitation of a denarius from the Mykolaiv Oblast (Anokhin 2015, no. 575/ar); 3 – a gold-plated imitation from the Odesa Oblast (Anokhin 2015, no. 190/au).

antoninianus of Carinus from the Cherniakhiv settlement near the Bolhrad town, near Yalpug Lake (Kropotkin 2000: 32, no. 1876). It is also known that at least two finds of antoniniani hoards were made in the the Northern Black Sea Littoral region. The first one was discovered in 1977 or 1978, near the Vasylivka village in the Odesa Oblast. It consist of 15 coins issued between the reigns of Severus Alexander and Trebonianus Gallus (Rozumenko 1982: 135–137). The second hoard was found several years ago in the vicinity of Odesa itself. It included at least 44 coins

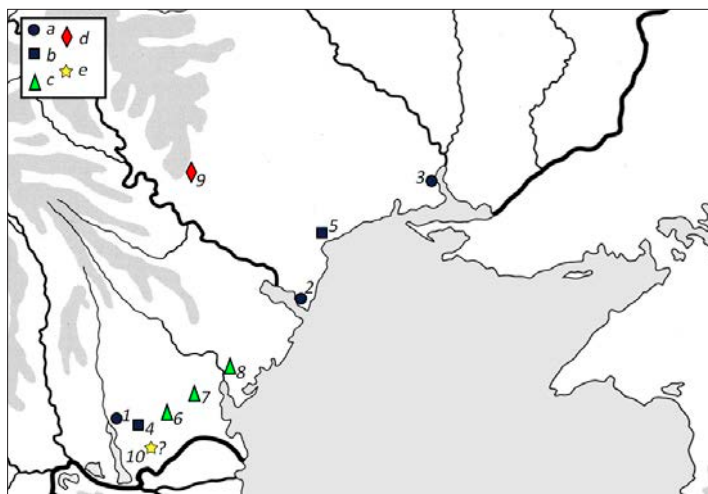


Fig. 5. Finds of 3rd-century AD Roman coins from the North Black Sea Littoral region.
 a – single finds of antoniniani; b – finds of antoniniani hoards; c – finds of Roman Provincial coins;
 d – find of aureus; e – find of gold barbarian imitation.
 1 – Bolhrad; 2 – Roksolany (environs); 3 – Stara Bohdanivka; 4 – Vasylivka; 5 – Odesa (environs);
 6 – Kamianske; 7 – Mykolaivka-Novorosyiska; 8 – Biliaivka; 9 – Dolynske; 10 – Izmail district
 (without precise location; drawn by K. Myzgin).

of the period of Gallienus (late issues) and Claudius II (Myzgin and Perederey 2021: 316). As can be seen, antoniniani are not frequent finds in the region. I believe there were at least three waves of influx of antoniniani into eastern Barbaricum (Myzgin and Perederey 2021: 317). The first wave was probably connected with the victory of the barbarians at Abritus, the consequence of which was the payment of contributions by Trebonianus Gallus (Bursche 1996: 97, 127; Myzgin and Perederey 2021: 317). The finds from Stara Bohdanivka, the antoniniani of Philip the Arab and Decius from Roksolany and a hoard from Vasylivka may be connected with this wave. The second wave reflects coins from the time of Valerian and Gallienus. I connect the influx of these coins with the military and political activity of the barbarians at the end of 250s and in 260s, when barbarian warriors could be actively recruited for service in the Empire, as well as with its enemies. For that, they could receive payment in gold and silver, including antoniniani (Myzgin and Perederey 2021: 317). The antoninianus of Gallienus from Roksolany is obviously to be associated with this wave. Finally, the final phase of the influx of antoniniani is associated with coins issued between the late reign of Gallienus and Diocletian. The rare finds of these coins in Southeastern Europe probably reflect the participation of individual

troops or warriors in the events of the late 260 – early 280s in the Empire (Myzgin and Perederey 2021: 317). The hoard discovered in the vicinity of Odesa may be connected with this wave of influx of antoniniani.

There is little information about the finds of **Roman provincial coins** in the Northern Black Sea Littoral region (Fig. 5). In the catalogues by Vladislav Kropotkin, only three finds from the Odesa area can be associated with the Cherniakhiv culture: a coin of Gordian III minted at Tium in Bithynia from Biliaivka (Kropotkin 2000: 32, no. 1874), a coin of Caracalla minted in Philippopolis in Thrace from Mykolaivka-Novorosiiska (Kropotkin 2000: 33, no. 1892) and a coin with portraits of Macrinus and Diadumenianus minted in Marcianopolis in Lower Moesia from Kamianske (Kropotkin 1961: 71, no. 777). During the last few years, I have actively collected information on finds of Roman provincial coins from the territory of Ukraine from open sources (Myzgin 2016; 2018b). In the statistics I compiled at that time, the Northern Black Sea Littoral region is included as part of “Southern Ukraine” (Myzgin 2016: 165, figs. 12, 13; 2018b: 95). Unfortunately, as in the case of other categories, the information obtained from amateur artefact collectors contains only general information about the region of finds. The “Southern Ukraine” region may include both finds from the southern and northern parts of the Odesa and Mykolaiv Oblasts. Therefore, unfortunately, this material is uninformative for the purposes of this article. However, the vast majority of coins from this conventional region were struck in the mints of Upper and Lower Moesia and in Thrace.

There is a certain regularity in the topography of finds of the Roman provincial coins in the territory of the Cherniakhiv culture: in the areas to the west of the Dnipro River, coins that were minted in the Balkan provinces and also in the western and north-western cities of Asia Minor prevail; in the regions to the east of the Dnipro River the dominant position is occupied by coins minted in the cities of northern and central Asia Minor (Myzgin 2016: 164–165). This fact is most likely explained by the peculiarities of the military activity of different groups of barbarians during the Gothic wars of the 3rd century. Finds to the west of the Dnipro River, including those from the Northern Black Sea Littoral region, are probably connected with the participation of Goths in the campaigns of 230s and 240s that were conducted in the Balkan provinces of the Roman Empire (Thrace, Lower and Upper Moesia, Dacia and Macedonia), and in the 260s in the north-western and western regions of Asia Minor, primarily in the territory of Bithynia (Myzgin 2016: 164–165). The coins east of the Dnipro reflect participation in the incursions to the northern regions of Asia Minor (Myzgin and Didenko 2021). These observations confirm findings from the Northern Black Sea Littoral region, minted in Lower Moesia, Thrace, and Bithynia.

From the information published before 2001, at least five **aurei** of the 1st–3rd centuries have been found (Fig. 5) in the territory of the Northern Black Sea Littoral

region (Kropotkin 1961: 70, nos. 739, 748; Kropotkin 2000: 30, no. 1851; 31, nos. 1861, 1862), of which only one could be connected with the Cherniakhiv culture because the findspot is situated at a certain distance from the ancient centres. This concerns an aureus of Diocletian found in a field near the village of Dolynske, Odesa Oblast (Kropotkin 1961: 70, no. 739). No particular changes to this picture are produced by the latest data. According to my information, there is only very general information about the find of an aureus of Hadrian from the Mykolaiv Oblast and fragments of aurei of Volusianus and Caracalla from the Odesa Oblast. It should be noted that the exact findspots are unknown and there is no guarantee that these coins were not found in the north of these administrative regions (i.e., oblasts), that is, they have nothing to do with the region under consideration. In general, it has already been repeatedly noted that the main area of finds of imperial gold coins in Barbaricum is the forest-steppe regions to the west of the Dnipro, especially the areas between the upper reaches of the Southern Buh and the middle reaches of the Dnister (cf., Myzgin 2018a: 45; Bursche and Myzgin 2020: 212–213, map 4). Several hundred finds of aurei have been found here, the vast majority of which dated back to the time between Gordian III and Decius.⁵ The predominance of finds of the mid-third century gold coins is associated with the victory of the Goths over the Roman army in 251 near Abritus and the seizure of the imperial treasury (Bursche 2013; Bursche and Myzgin 2020). A large number of coins also belong to the time of the reign of Gallienus, the influx of which could be connected with the service of barbarians as mercenaries in the Roman army or the armies of its adversaries (Myzgin and Filatov 2018). The same reasons can probably also explain the influx of gold coins from the period of the Tetrarchy and the early Dominate periods (cf., Myzgin 2018a: 37–38). Interestingly, from the last quarter of the third century, finds of gold coins spread to the east of the Dnipro (finds of earlier issues are almost unknown there). Hypothetically, this can be connected with a considerable expansion of the area of the Cherniakhiv culture in the late phase C2 or early phase C3 of the Central-European relative chronology system (cf., Lyubichev 2019: 145–178). Whether the finding of an aureus of Diocletian from Dolynske is related to these is an open question. It may have something to do with the influx of bronze coins of the late 3rd – first quarter of the 4th century to this region (see below).

The **gold or gold-plated imitations** are also rare in the Northern Black Sea Littoral region. About 180 years ago, Nikolay Murzakevich (Murzakevich 1844: 318, no. 20) wrote about a find of gold imitations supposedly within the borders

⁵ Incidentally, an aureus of Decius is also known from the finds from Bilhorod-Dnistrovskiy (Kropotkin 2000: 31, no. 1862), but whether it is associated with the Cherniakhiv culture is not clear; the presence or absence of a hole in the coin would help to clarify this: holes are the most characteristic for Roman gold coin finds from the Cherniakhiv culture (cf., Bursche and Myzgin 2020: 215–219).

of the modern-day Odesa Oblast. The imitations from the Odesa Archaeological Museum were mentioned by Vladislav Kropotkin (Kropotkin 1976: 26, 27), although there is no confirmation that they were local finds. In the catalogue of finds of barbarian imitations from the territory of Ukraine and Moldova, Oleh Anokhin associates seven gold and gold-plated imitations with the Odesa and Mykolaiv Oblasts (Anokhin 2015: nos. 4, 59, 141, 190, 198, 201, 221, 260). However, almost all of them are found in the northern parts of these administrative units. The only exception is a gold-plated imitation of an aureus from the Izmail district of the Odesa Oblast (Fig. 4:3; Anokhin 2015: no. 190). As in the case of the aurei, finds of gold or gold-plated imitations are concentrated far to the north of the Black Sea Region – in central and western Ukraine (cf., Myzgin *et al.*, 2018: 229, fig. 5). Most probably, their production was started not earlier than the 260s, but significantly activated at the late 3rd – early 4th centuries, apparently to make up for the lack of original Roman gold coins (Myzgin *et al.*, 2018: 230).

Coin finds from the Late Roman period in the Northern Black Sea Littoral region are represented by bronze issues (AE2, AE3), silver coins (siliquae) and gold issues (solidi).

Late Roman bronze coin finds in the Northern Black Sea Littoral region comprise a relatively large percentage (Fig. 6). First, this applies to the western areas of the region, especially in the area of the lower Dnister and Danube rivers. According to Elena Stolyarik's calculations, more than half of these coins issued between AD 337 and 378 were found here. Not less than a third of all finds are coins issued between AD 284–337. Coins from the last quarter of the 4th century and the fifth century (AD 378–491) are known in the smallest quantity (Stolyarik 1992: 28–29; table 4). Generally, this is part of the greater concentration of Roman bronze that is observed to the east of the Dnister River (cf., Vorontsov and Myzgin 2019: 249, fig. 3). Obviously, the activity of Late Roman bronze coin influx into this area is connected with its proximity to Roman Limes. This territory could have been included in the orbit of direct trade interests of the Roman Empire (Myzgin 2013: 227). Another significant source could be the service of the local population in the Late Roman army as *foederati* (Bursche 1996: 121; Myzgin 2013: 227, 229). As a rule, all these coins were issued by mints of the Eastern Roman Empire, which may indicate their places of service (Magomedov 2006: 48–49). Including Late Roman bronze coins in the burial inventory is probably also connected with the Roman tradition. At least three such assemblages are known in the region: Graves 59, 73, and 86 of the Nahirne cemetery in the Odesa Oblast (Gudkova and Schultze 2017: 218, 225–226).⁶

⁶ Grave 203 from the Bilenke cemetery in the Odesa Region is also possible, although the exact dating of the coin there is unknown (Rosokhackiy 1992: 36–38).

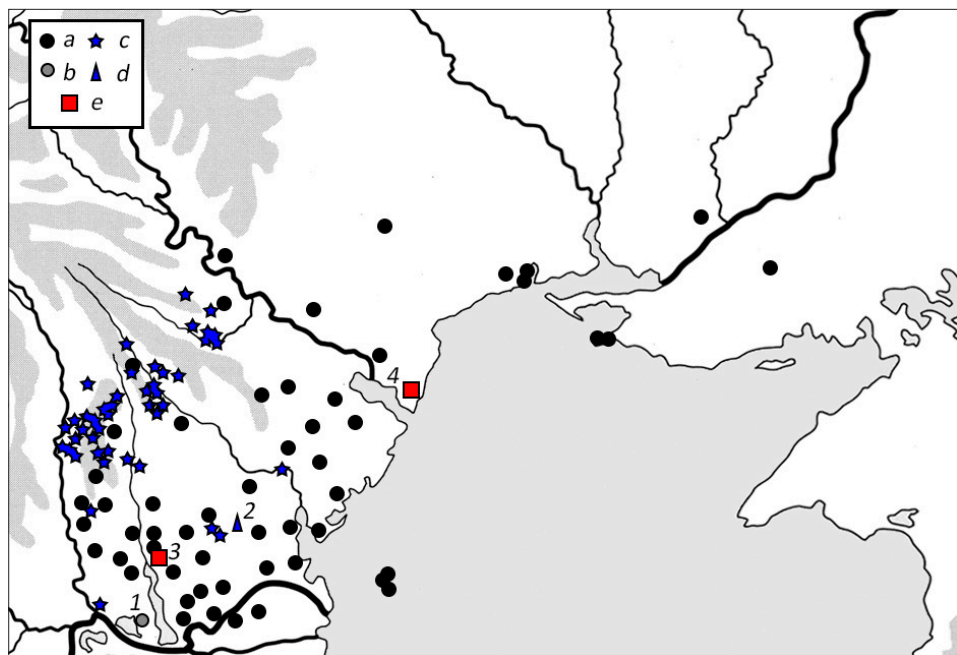


Fig. 6. Finds of Late Roman coins (early 4th – mid-5th centuries) from the North Black Sea Littoral region (after: Vorontsov and Myzgin 2019: 249, fig. 3; Dergaciova 2021: 186, pl. XXIV; with some additions).

a – single finds of AE issues; b – graves containing AE coins; c – single finds of siliquae; d – find of hoard of siliquae; e – finds of solidi; 1 – Nahirne; 2 – Kholmske; 3 – Hrybivka; 4 – Tabaky.

The **siliquae** finds in the catalogues of Kropotkin and Stolyarik cannot be called a frequent category (Fig. 6), and all of them, as in the case of Late Roman bronze coin finds, are known from the western part of the Northern Black Sea Littoral region (Kropotkin 2000: 32–33, no. 1887; Stolyarik 1992: 24–26). I also have unpublished information on several new single finds from this region. A hoard of siliquae found in 1982 near the Kholmske village is of interest. It was first published in 1985 (Gudkova and Stolyarik 1985), but it was recently thoroughly examined and republished by Lilia Dergaciova (2021). The hoard was discovered in a settlement of the Cherniakhiv culture. It contained 93 coins: 92 siliquae issued during the reign of Constantius II between AD 351 and 355 by the mints of Arles, Sirmium, Constantinople and Nicomedia, and one barbarian imitation of a Constantius II siliqua (Dergaciova 2021: 123–127).

Both the single finds of siliquae from the Northern Black Sea Littoral region and the hoard from Kholmske are part of a wider area of finds east of the Dnister. All this is proved, among other things, by the die-links between some coins from the Kholmske hoard and the hoards of siliquae from Chişinău/airport, Taraclia, Teleneşti, and Lărguţa (Dergaciova 2021: 145). Dergaciova considers the bulk of the influx of siliquae to the region between AD 367 and 369 as payment to barbarian mercenaries who participated on the side of Procopius against Valens (Dergaciova 2021: 156). However, in Stolyarik's opinion, the coins could have arrived here earlier, and the hoard in AD 367–368 would have been hidden during the punitive expedition of Valens to the Lower Danube (Stolyarik 1989: 48). According to another hypothesis, this was a payment to barbarians for their service in the Roman army as *foederati* (Bursche 1996: 121; Shchukin 2005: 202). Generally, in my opinion, in considering the date of deposition of the siliquae hoards, including the hoard from Kholmske, we should consider the time of imitation of siliquae production, which was at least 5–10 years later than the official ones.

Finally, the finds of **solidi** in the region are known only in two cases (Fig. 6). This concerns a pierced solidus of Licinius from Hrybivka and a solidus of Zeno from Tabaky, Odesa Oblast (Stolyarik 1992: 22, 28). No newer finds of such coins from the region are known to me. As in the case of the two previous categories, these two coins are part of a larger area of their finds to the east of the Dnister River (cf., Gavritukhin 2005: 233, 234). The solidi of the first three-quarters of the 4th century (i.e., including the coin from Hrybivka) probably came to the region as a payment for military service in the Empire or as diplomatic gifts to the representatives of the barbarian elite (cf., Bursche 1996: 121). The solidi of the Hunnish time could result from diplomatic relations or/and trade (Myzgin 2013: 229–230).

This is a general overview of the finds of Roman coins, their copies and imitations found on the territory of the Northern Black Sea Region in the area of the Cherniakhiv culture. Several **conclusions** can be drawn from it

1. As a whole, the finds of Roman coins in the Northern Black Sea Littoral region related to Cherniakhiv culture have been studied relatively poorly. This is due to the somewhat inadequate level of their registration and the state of publication of the latest data. One significant problem for the region is identifying coin finds from the “Roman” and “non-Roman” contexts. In this text, I have purposely ignored the finds of Roman coins from the territories of Olbia, Tyras and Nikonion, but some parts of them could likely have been brought there by the population of the Cherniakhiv culture. Of course, the situation is simplified if the finds of the coins on the ancient sites can be connected with the Cherniakhiv context. In other cases, however, it is challenging to identify coins from the Imperial and Barbarian territories in ancient or mixed layers and only if they have features typical for the barbarian

zone of the circulation of Roman coins. For example, this allows Borys Magomedov to suggest that these highly worn denarii could be associated with the Cherniakhiv horizon (Magomedov 2006: 49–50). Obviously, the coins of the 3rd–4th centuries on these sites could be more probably associated with the Cherniakhiv culture.

2. From the perspective of the Cherniakhiv culture, the region has the following features in the distribution of coin finds: a) despite the wide distribution of single finds of denarii, there are practically no hoards of them, a phenomenon that requires a closer study; b) there are very few reliable finds in the region of copies and imitations of Roman coins produced in barbarian workshops; c) there are few finds of antoniniani in the region, but there is a rare find of a hoard of them with issues of Gallienus and Claudius II; d) few gold coins of 1st–3rd and 4th–5th centuries are associated with the region; e) at the same time, however, the area is distinguished by a large number of finds of Late Roman bronze coins, f) as well as the presence of finds of siliquae, including a hoard of them.

3. Against the general background of the distribution of Roman coins in the territory of the Cherniakhiv culture, the Northern Black Sea Littoral region is rather different from the others (cf., Myzgin 2019a; 2019c). These differences are connected, first of all, with a much smaller number of finds of coins of the 1st–3rd centuries compared to other regions. At the same time, the distribution of coins of the 4th–5th centuries (bronze coins and siliquae) brings it closer to the westernmost areas of Cherniakhiv culture (i.e., those situated to the west of the Dnister). However, the latter case deals with material from the area between the lower reaches of the Dnister and the Danube Rivers. The areas to the east, between the lower reaches of the Dnister, the Southern Buh and the Dnipro, appear less rich in finds of Roman coins. Such a situation may be due to insufficient research in these territories. Nevertheless, I am more inclined to attribute these features to the specificity of the local distribution of the Cherniakhiv culture (about this, see: Magomedov 1987; Gudkova 1999). Some role, not yet clear to me, could have been played by the features of the traditional culture of the „indigenous” population (Late Scythian and Late Sarmatian), who were part of the „Gothic federation of tribes”, and also by the proximity of the population from the ancient centres (Olbia, Tyras, and Nikonion). Finally, a decisive factor, especially in the case of 3rd–4th century coins, was the proximity to the Roman Limes (this applies especially to the North-Western Black Sea area).

In any case, further processing of coin finds (both old and new ones) and their further detailed and critical publication is one of the essential perspectives in studying Roman coins in the Northern Black Sea Littoral region. This article can only be regarded as a prologue to this.

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REFERENCES

- Anokhin, O. V. 2015. *Fal'shivomonetnichestvo u varvarskikh plemen na territorii sovremennoy Ukrainy i Moldovy. Katalog varvarskikh podrazhaniy*. Dnepropetrovsk.
- Awianowicz, B., Dymowski, A. and Myzgin, K. 2022. The counterfeit Roman Imperial denarii on both sides of the limes according to the written, archaeological and numismatic sources. Was there any transfer of ideas, technologies and coins? In M. Olędzki and A. Dubicki (eds), *Rome and the Barbarians. An Interplay between two Worlds*, 129–144. Łódź.
- Baran, V. D. 1981. *Cherniakhivska kultura (za materialamy Verkhnoho Dnistra ta Zakhidnoho Buhu)*. Kyiv.
- Braichevskyi, M. Yu. 1959. *Rymska moneta na terytorii Ukrainy*. Kyiv.
- Bursche, A. 1996. *Later Roman-Barbarian Contacts in Central Europe. Numismatic Evidence*. Berlin. Studien zu Fundmünzen der Antike 11.
- Bursche, A. 2011. *Illerup Ådal 14. Die Münzen*. Højbjerg. Jutland Archaeological Society Publications XXV: 14.
- Bursche, A. 2013. The battle of Abritus, the Imperial treasury and aurei in Barbaricum. *The Numismatic Chronicle* 173: 151–171.
- Bursche, A. and Myzgin, K. 2020. Mid-3rd century Gothic invasions: coins and archaeology in Barbaricum. *Journal of Roman Archaeology* 33: 195–229.
- Dergaciowa, L. 2021. The Siliqua Coin Finds in the Region Between Dnister and Prut. A Case Study. In V. Varbanov and N. Rusev (eds), *Coin Hoards in Southeastern Europe (1st–6th century AD)*, 118–186. Rousse. Proceedings of the Rousse Regional Museum of History 24.
- Dymowski, A. 2021. Barbarian copies of Roman Imperial denarii. In R. Ciołek and R. Chowanec (eds), *Aleksandria. Studies on Items, Ideas and History Dedicated to Professor Aleksander Bursche on the Occasion of his 65th Birthday*, 111–116. Wiesbaden.
- Dymowski, A. and Myzgin, K. 2014. Inflow and redistribution of Roman imperial denarii in the area of Przeworsk, Wielbark and Chernyakhiv Cultures and in the Baltic Islands in the light of chronological of coin hoards. *Notae Numismaticae / Zapiski Numizmatyczne* IX: 39–69.
- Dymowski, A. and Myzgin, K. 2021. „Wspólna waluta” Barbarzyńców? Barbarzyńskie naśladownictwa denarów rzymskich z okresu Cesarstwa w skarbach znalezionych w Europie Środkowej, Wschodniej i Północnej. In E. Droberjar and B. Komoróczy (eds), *Príspevky k poznání barbarských komunit*, 195–217. Brno. Archeologie barbarů 2016 a 2018.
- Gavritukhin, I. O. 2005. Nekotorye perspektivy izucheniya finala chernyakhovskoy kul'tury. *Trudy Gosudarstvennogo istoricheskogo muzeya* 145: 231–240.
- Gudkova, A. V. and Stolyarik, E. S. 1985. Kompleks pozdneantichnykh pamyatnikov u s. Kholmское Odesskoy oblasti. In V. P. Vanchugov and G. A. Deis-Raiko (eds), *Pamyatniki drevney istorii Severo-Zapadnogo Prichernomor'ya. Sbornik nauchnykh trudov*, 78–85. Kyiv.

- Gudkova, A. V. 1999. I–IV vv. v Severo-Zapadnom Prichernomor'e (kul'tura osedlogo naseleniya). *Stratum plus* 4: 235–404.
- Gudkova, A. V. and Schultze, E. 2017. *Gräberfeld und Siedlung Nagornoe 2. Ein Fundplatz der Sântana Mureș-Chernijachov-Kultur an der Unteren Donau*. Bonn. Archäologie in Eurasien 35.
- Karyshkovskiy, P. O. 1988. *Monety Ol'vii: Ocherk denezhnogo obrasheniya Severo-Zapadnogo Prichernomor'ya v antichnyu epokhu*. Kyiv.
- Kropotkin, V. V. 1961. *Klady rimskikh monet na territorii SSSR* (Svod arkheologicheskikh istochnikov G4–4). Moskva.
- Kropotkin, V. V. 1966. Novye nakhodki rimskikh monet v SSSR (dopolnenie k «Svodu arkheologicheskikh istochnikov», vyp. G4–4). *Numizmatika i epigrafika* VI: 74–102.
- Kropotkin, V. V. 1976. Varvarskie podrazhaniya rimskim zolotym monetam v Vostochnoy Evrope. *Slovenská Numizmatika* 4: 11–35.
- Kropotkin, V. V. 2000. Dopolnenie k spisku nakhodok rimskikh monet. *Stratum plus* 6: 20–117.
- Lyubichev, M. V. 2019. *Rannyya istoriya dnepro-donetskoj lesostepi I–V vekov*. Kharkiv. Ostrogothica Serie 2.
- Magomedov, B. V. 1987. *Chernyakhovskaya kul'tura Severo-Zapadnogo Prichernomor'ya*. Kyiv.
- Magomedov, B. V. 2006. Monety yak dzherelo do istorii plemen cherniakhivskoi kultury. *Arheolohiia* 4: 46–52.
- Magomedov, B. V. 2011. *Chernyakhovskaya kul'tura. Problema etnosa*. Lublin.
- Makhno, E. V. 1970a. Znovu pro lokalni varianty cherniakhivskoi kultury. *Arheolohiia* 24: 49–58.
- Makhno, E. V. 1970b. Ob osnovnykh zadachakh kartografirovaniya chernyakhovskoy kul'tury v svyazi s vydeleniem lokal'nykh variantov. *Kratkie soobsheniya Instituta arkheologii AN SSSR* 121: 60–64.
- Murzakevich, N. N. 1844. O nekotorykh maloizvestnykh monetakh, imeyushikhsya v Odesse. *Zapiski Odesskogo obshchestva istorii i drevnostey*, 315–319. Odesa.
- Myzgin, K. V. 2010. *Antichnye monety na pamyatnikakh chernyakhovskoy kul'tury*. Unpublished PhD thesis, V. N. Karazin Kharkiv National University.
- Myzgin, K. V. 2013. Rimskie monety v areale chernyakhovskoy kul'tury: problema istochnikov postupleniya. *Stratum plus* 4: 217–233.
- Myzgin, K. V. 2016. Gotskie voyny, rimskie monety i chernyakhovskaya kul'tura. *Stratum plus* 4: 153–171.
- Myzgin, K. V. 2018a. Aureusy, antoniniany i provintsial'naya bronza. Gotskie voyny III v. i chernyakhovskaya kul'tura v svete monetnykh nakhodok. In M. V. Lyubichev and K. V. Myzgin (eds), *Khronologiya i monetnye nakhodki pozdnerimskogo vremeni i epokhi Velikogo pereseleniya narodov. Aktual'nye arkheologicheskie issledovaniya v Tsentral'noy i Vostochnoy Evrope (materialy polevogo seminara na baze ekspeditsii voze s. Voytenki 15–17 sentyabrya 2016 g., 36–55*. Kharkiv. Ostrogothica Serie 3.
- Myzgin, K. V. 2018b. Finds of Roman provincial coins on the territory of Eastern Europe: Balkan cities mintage. In V. Ivanishević, B. Borić-Breshković and M. Vojvoda (eds), *Proceedings of the International Numismatic Symposium “Circulation of the antique coins in Southeastern Europe”, Viminacium, Serbia, September 15th to 17th, 2017*, 87–103. Belgrade.
- Myzgin, K. V. 2019a. Antichnye monety kak istochnik po kul'turnoy i ranney istorii dnepro-donetskoj lesostepi I–V vv. In M. V. Lyubichev, *Rannyya istoriya dnepro-donetskoj lesostepi I–V vekov, chast' 2*, 8–15. Kharkiv. Ostrogothica Serie 2.
- Myzgin, K. V. 2019b. Rimskie monety pervykh vekov nashey ery na territorii Tsentral'noy i Vostochnoy Evropy: obshyaya i sravnitel'naya kharakteristika (po materialam kladov). In I. O. Gavritukhin and A. M. Vorontsov (eds), *Lesnaya i lesostepnaya zony Vostochnoy Evropy v epokhi rimskikh vliyaniy i Velikogo pereseleniya narodov. Konferentsiya 4, chast' 2*, 210–225. Tula.

- Myzgin, K. V. 2019c. Znakhidky rymskykh monet na Volyni: osnovni katehorii ta osoblyvosti rozpovsiudzhennia (do problemy rehionalnoho vyvchennia). *Arkheolohiia i davnia istoriia Ukrainy* 1(30): 30–42. Kyiv.
- Myzgin, K. V. and Filatov, D. A. 2018. Nakhodki aureusov uzurpatorov III veka na territorii Ukrainy. *Starodavne Prychornomor'ia* XII: 360–368.
- Myzgin, K. V., Vida, I. and Więcek, T. 2018. Gold imitations of Roman coins from collection of Hungarian National Museum in Budapest. In B. Niezabitowska-Wiśniewska, P. Łuczkiwicz, S. Sadowski, M. Stasiak-Cyran and M. Erdrich (eds), *Studia Barbarica. Professorowi Andrzejowi Kokowskiemu w 65. rocznicę urodzin* II, 222–247. Lublin.
- Myzgin, K. and Didenko, S. 2021. Borany Zosima, Bosporskoe tsarstvo i pokhod na Trapezund. In M. Matera and R. Karasiewicz-Szczypiorski (eds), *Pontica et Caucasia II. Interdisciplinary research on the antiquity of the Black Sea*, 311–336. Warszawa. Światowit. Supplement Series C: Pontica et Caucasia II.
- Myzgin, K. and Perederey, A. 2021. A Hoard of Third Century Coins (Denarii and Antoniniani) from Ostapkiivtsi (Ukraine). In V. Varbanov and N. Rusev (eds), *Coin Hoards in Southeastern Europe (1st–6th century AD)*, 314–344. Rousse. Proceedings of the Rousse Regional Museum of History 24.
- Petrauskas, O. V. 2021. Cherniakhivska kultura ta huny (za materialamy arkeolohichnykh pamiatok Ukrainy). *Arkheolohiia* 2: 15–33.
- Prykhodniuk, O. M. 1994. Pro formy ta zmist etnokulturnykh arkeolohichnykh struktur (finalna stadiia pervisnoho ladu). In P. P. Tolochko (ed.), *Starozhytnosti Rusi-Ukrainy*, 61–68. Kyiv.
- Rosokhatskiy, A. A. 1992. *Otchet o polevykh issledovaniyakh Shabolatskogo otryada Odesskogo okhrannogo arkeologicheskogo tsentra v 1991 g.* Unpublished manuscript, Odesa.
- Rozumenko, I. G. 1982. Klad antoninianov iz Bolgradskogo rayona. In V. L. Yanin (ed.), *Numizmatika antichnogo Prichernomor'ya*, 135–137. Kyiv.
- Shchukin, M. B. 2005. *Gotskiy put' (Goty, Rim i chernyakhovskaya kul'tura)*. Saint Petersburg.
- Stolba, V. F. and Peter, U. 2021. Klad rimskikh denariiev iz okrestnostey Ol'vii. In N. A. Alekseenko (ed.), *Pripontyiyskiy menyala: den'gi mestnogo rynku. VIII Mezhdunarodnyy Numizmaticheskii Simpozium. Materialy nauchnoy konferentsii*, 223–232. Simferopol.
- Stoliarik [Stolyarik], E. S. 1993. *Essays on Monetary Circulation in the North-Western Black Sea Region in the Late Roman and Early Byzantine Periods: Late 3rd century – Early 13th Century AD*. Odesa.
- Stolyarik, E. S. 1984. Novye nakhodki monet pervoy poloviny I tysiacheletiia n.e. v zapadnykh rayonakh Odesskoy oblasti. In A. V. Gudkova and M. M. Fokeev, *Zemledel'tsy i kochevniki v nizov'yakh Dunaya v I–IV v.v. n.e.*, 105–107. Kyiv.
- Stolyarik, E. S. 1989. Rimskaya moneta v Severo-Zapadnom Prichernomor'e. In T. L. Samoylova (ed.), *Arkheologicheskie pamyatniki stepey Podnestrov'ya i Podunav'ya*, 45–52. Kyiv.
- Stolyarik, E. S. 1992. *Ocherki monetnogo obrasheniya Severo-Zapadnogo Prichernomor'ya v pozdnerimskoe i vizantiyskoe vremya (konets III – nachalo XIII v.)*. Kyiv.
- Symonovich, E. A. 1979. Koblevskii i Ranzhevskii mogilniki okolo Odessy. In E. A. Symonovich (ed.), *Mogilniki chernyakhovskoi kultury*, 63–111. Moskva.
- Tikhanova, M. A. 1957. O lokal'nykh variantakh chernyakhovskoy kul'tury. *Sovetskaya arkheologiya* 4: 168–194.
- Vorontsov, A. M. and Myzgin, K. V. 2019. Ultima Thule? O nakhodkakh pozdnerimskikh monet na territorii Tuly. In O. V. Petrauskas, O. V. Hopkalo, and S. A. Horbanenko (eds), *Starozhytnosti varvarskykh plemen u pershii polovyni I tys. n. e.: do 90-richchia V. D. Barana*, 244–261. Kyiv. Oium 6.
- Zograf, A. N. 1955. Denezhnoe obrashchenie i monetnoe delo Severnogo Prichernomor'ya. In V. F. Gaydukevich and M. I. Maksimova (eds), *Antichnye goroda Severnogo Prichernomor'ya: Ocherki istorii i kul'tury* 1, 148–163. Moskva–Leningrad.

Glass-production Workshop of the Hunnic Times Near Komariv on the Dnister River

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The article presents materials from the glass-production workshop of the Hunnic times found near Komariv on the middle Dnister, which was the only such workshop on the territory of European *Barbaricum*. In 2021, we investigated a buried structure, where remains of mostly semi-finished glass products, production waste, and finished vessels were found. Fragments of Cherniakhiv culture wheel-made pottery and hand-made vessels; Roman amphorae; coins; fibulae; a mirror; an arrowhead, etc. also come from the building. The nature of the glass finds indicates that the structure, dated to the mid-5th century AD, was associated with glass production. The workshop, built in the same period as a building on a stone foundation, could have formed a single complex. The finds and the object's dating are evidence that glass processing was practiced also in the Hunnic times in the Cherniakhiv culture.

KEY-WORDS: the Cherniakhiv culture, Komariv, glass-production workshop, the Hunnic times

The complex of Cherniakhiv culture sites near the village of Komariv (Dnister district, Chernivtsi region) with the remains of glass production consists of a settlement (“Komariv”) and a cemetery of the same period (“Komariv-1”). The settlement is located on the right bank of the middle course of the Dnister river and in cultural terms lies on the center of the Cherniakhiv – Sântana de Mureş culture (Fig. 1). In terms of proximity of the Komariv material complex to provincial Roman material culture, it should be noted that it is 250–300 km from the borders of the Danubian provinces of the Empire.

The settlement has total area about 30–35 hectares (Fig. 2:3) and occupied both banks of a stream that 5 km lower flows into the Dnister River. A cemetery of the same period as the settlement is located on the southern bank of the stream.

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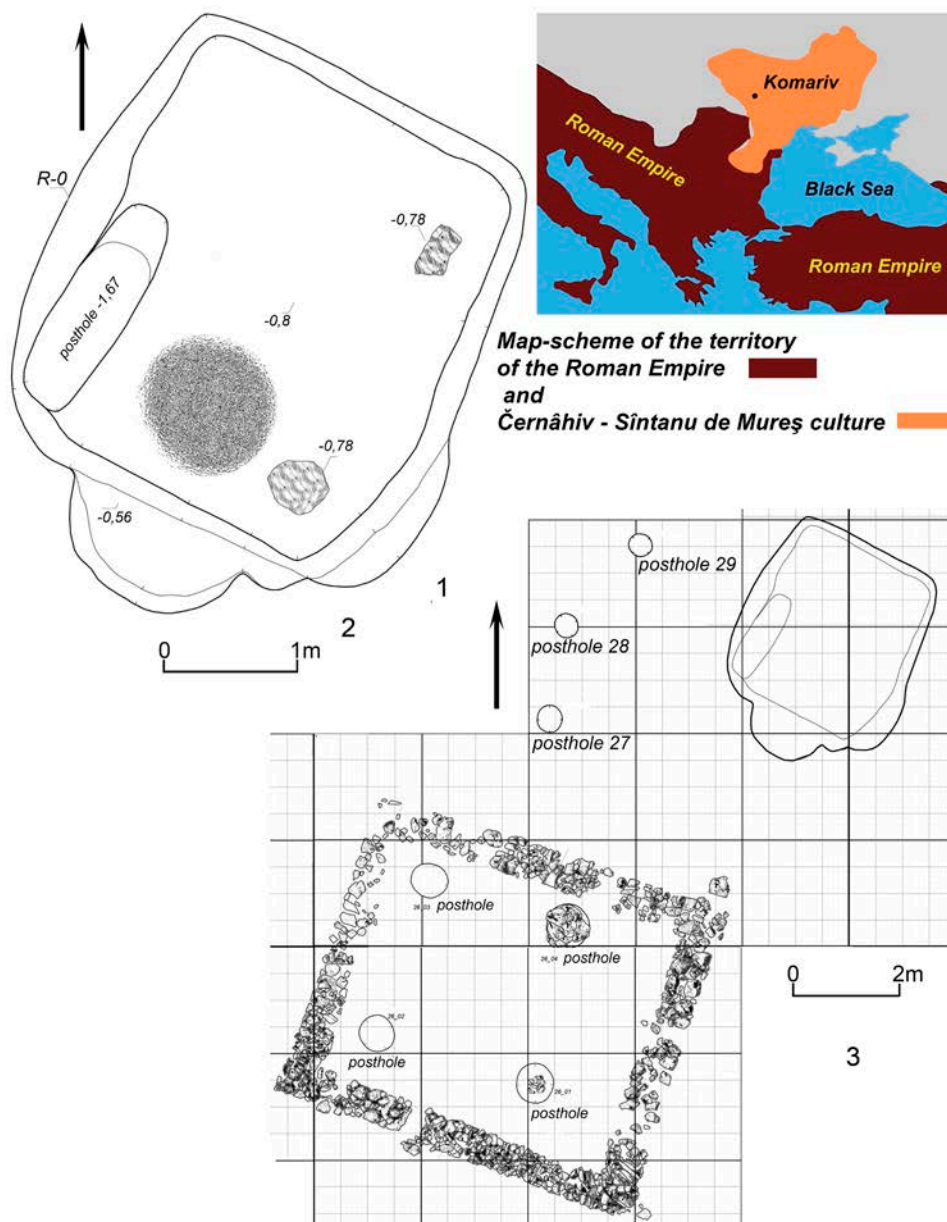


Fig. 1. Map of Sântana de Mureș – Cherniakhiv culture (Ukraine, Moldova, Romania) – (1), construction plan of object 30 (2), and plan of the objects studied in the central part of the settlement (3). Authors: O. Petrauskas and R. Shyshkin.

The investigated areas were occupied in previous archaeological periods (Palaeolithic, Bronze, and Early Iron Age), but most of the archaeological finds date back to the Late Roman period, that is from the third century AD to the first half of the 5th century (Petrauskas 2014a: 165–184).

The presence of the Cherniakhiv culture sites near the village of Komariv was discovered by Oleksandr Chernysh in 1950. In 1956–1957, 1962, 1965, and 1969, excavations at the settlement site were conducted by the archaeological expedition led by Markiiian Smishko. In 1974, the excavations were carried out by Yuliia Shchapova. The results of these studies have only partially been published (Smishko 1964: 67–80; Shchapova 1978: 230–242). According to these reports, about 4000 m² of the settlement area was examined during six seasons and 40 objects of the Late Roman period were found (Petrauskas 2014b: 87–116).

From 2010 to 2021, a joint expedition of the Department of Archaeology of the Early Slavs and the “Rescue Archaeology Service” of the Institute of Archaeology of the National Academy of Sciences of Ukraine continued archaeological research of the site. After 2014, the work was carried out within the framework of a Ukrainian-German project with the participation of the Free University of Berlin, and since 2017, the University of Rostock has been a project partner.

Over these years, geophysical measurements carried out on an area of more than 13 hectares have made it possible to record anomalies of archaeological origin both in the settlement and in the cemetery. As a result of excavations, more than 30 objects of various types have been researched at the settlement together with 12 inhumation burials in the cemetery.

The analysis of the data from the archaeological and geophysical surveys suggests the division of the settlement into industrial and residential parts. The production part occupies the northern bank of the stream, where also most finds and objects related to glass production are concentrated. The southern part of the settlement was most likely occupied exclusively by residential and household buildings. The focus of the archaeological research was determined based on the results of M. Smishko’s excavations and the results of the geomagnetic investigation were also considered. In 1957, the remains of a house on a stone foundation within the limits of the central part of the settlement had been excavated and examined. Next to it, there was also found a small part of a buried structure where more than 200 fragments of glass were excavated (Smishko 1964: 71–72).

In 2019 and 2021, an additional survey of the structures discovered by M. Smishko was conducted in this part of the settlement. The re-discovery of the remains of the stone structure made it possible to significantly clarify the plan and nature of the feature and define more closely its date. In particular, it was established that the structure probably had two construction horizons. The first one is dated the second

half of the third century and is represented by the remains of four solid wooden posts (about 0.5 m in diameter). The dimensions of this structure were about 3.6×3.6 m, and it was oriented in the same direction as the later building in this place. This was built of stones and bricks in its place, possibly in the middle of the 4th century. The stone structure had a rectangular shape of 6×6.9 m, and its angles were oriented in the cardinal directions. The foundation was made of limestone with no mortar in a foundation trench. At the time of our archaeological research, the stone walls were 0.75 m high and 0.7 m wide. M. Smishko believed that the structure, at least its foundation, was built with no mortar used. However, the recent research showed small fragments of limestone mortar inside the structure. Its presence may indicate the usage of mortar in masonry of the above ground part of the building. The final construction is dated to the second half of the 4th – first half of the 5th century, as evidenced by the concentration found on the floor near the western wall of fragments of a Delakeu type amphora, variant C of Snp I–1 according to Dominique Kassab Tezgörs (Didenko 2018: 113, fig. 106.5).

As mentioned above, in 1957, M. Smishko excavated nearly a quarter of an object next to the stone building where many glass finds were discovered.¹ In 2021, we completed the final uncovering and recording of the object.² Below, we summarise the form of the structure, the nature of its filling, and the composition of the finds.³

The building is located at 3.3 m from the north-eastern corner of the stone structure. The contour of the upper filling is recorded at a depth of 0.3 m from the present-day surface. After excavation of the buried part of the structure, it was found that it was of a rectangular form measuring 3.3×3.6 m with its corners oriented in the cardinal directions with a slight deviation. The floor of the structure was flat and was at a depth of 1.4–1.45 m from the present-day surface (0.8–1.0 m from the bedrock level).⁴ The walls were vertical, with a slight slope outwards. Steps 0.3 m high and 0.5 m wide were cut near the southern wall. A sandstone slab of $0.1 \times 0.4 \times 0.4$ m was laid in the southern corner, while a limestone stone of $0.2 \times 0.3 \times$

1 In the report and diary about M. Smishko's field research, the object is marked as Structure 6_1957. It is not known for what reasons; the same number was used to mark the stone structure. Since 2012, a consecutive numbering of the objects excavated in the settlement of Komariv has been applied by our expedition. Accordingly, the stone house was marked as No. 26, the buried structure with the remains of glass production – No. 30.

2 The research area was 48 m², within this area five objects of the Cherniakhiv culture were discovered (nos 30–34). Four of them were pits (post pits or utility pits) of 1.0 m in diameter and up to 0.5 m depth.

3 Information about the excavations of a part of the structure and the findings was recorded in the 1957 diary and the report by M. Smishko (Smishko 1957; 1956–1957). The drawings of the part of the studied structure could not be found. Also, based on the additional objects, it is possible to state that individual glass fragments collected during the previous excavations were associated with this structure.

4 According to M. Smishko, the bottom was dense and was peeling off from the bedrock.

0.5 m was on the floor in the western corner. Near the southwestern wall, a flat pit with vertical walls was dug. The pit had a narrow – 0.6×1.8 m – rectangular form and a depth of 0.87 m from the level of the floor of the structure. At 0.25 m from the step, and 0.2 m above the floor of the structure, an ash layer 0.1–0.2 m thick with a round ground plan about 1.0 m in diameter, was recorded. Many glass fragments were recorded around the ash layer (Figs 1:2; 2:1, 2).

The structure's stratigraphy had at least two layers. According to M. Smishko, the upper layer contained a highly humus-rich 0.75 m thick black loam, and the lower layer (closer to the floor) was a blended yellow clay and ash layer. The lower layer up to the middle of the area of the structure had an interlayer consisting of pieces of light brown clay coating with one flat side and the other having traces of wooden structures. In the filling areas (not excavated in 1957), we investigated three filling layers with blurred boundaries and approximately the same thickness (0.2–0.3 m): the upper and lower layers consisted of brown loam with a layer of humus-rich dark grey loam in between. All layers were approximately horizontally stratified. Here there was no occurrence observed of the usual "funnels" of gradual filling flow unlike the examples recorded in other features in previous years (Fig. 2:1).

The distribution of the finds in the object depends mostly on the level of the floor of the southwestern quarter of the structure. The stratigraphy of different categories of glass items is of special interest. Most of them came from the floor level of the structure (1.2–1.4 m below the present-day surface) and the level of the trench along the wall. Individual glass fragments were found only in the upper layers (0.6–0.8 m – small pieces of the walls and fragments of semi-finished products). At the floor level of the structure, the following fragments of glass items were found. According to M. Smishko: a thick-walled vessel with wheel-cut ovals; thin-walled vessels with a wavy ornament made of blue glass threads; thin-walled vessels with slightly curved and thickened rims; a round flat foot of a vessel and a fragment of the same foot; a fragment of a large bead made of transparent greenish glass; more than 40 fragments of glass mass (semi-finished products?) mostly green in colour; lumps of sintered glass. During the reported work, fragments of semi-finished products of green and blue colours, jug handles, flasks made of transparent glass, a fragment of a bowl made of blue glass, wall fragments with blue threads in a reticulate pattern, a concentration of fragments of almost completely preserved vessels (a cup with medallions, a phial with horizontal blue threads; a conical cup), and pieces of window glass were found at the floor level. In the "trench" along the western wall of the structure, mainly glass items, a fragment of the bottom of the wheel-made ceramic pithos, and a grinder were found. Among the glass products there was a bowl-beaker with a lobed base, plus vessel wall fragments with a wheel-cut oval. There were also numerous fragments of semi-finished product



1



2



3

Fig. 2. Komariv, object 30. Stratigraphy of the object (1), top view after the final clearing of the object (2), and view of the eastern section of the settlement and excavation (3).

Authors: O. Petrauskas and R. Shyshkin.

of blue and green colours, and also “caps” from glass blowing with the broken-off attachment to a blowpipe, and walls with an wheel-cut oval.

Other material came from the filling of the building pit: fragments of Cherniakhiv culture wheel-made pottery and hand-made ware; separate fragments of Roman amphorae and two coins; two fibulae; a mirror; an arrowhead; a clay sinker; an unidentified object made of bone; an iron knife; a fragment of a sickle(?); a curved iron object; two stone grinders and animal bones.⁵

The “assemblage of glass” of the structure is of the greatest interest. It consists of lump glass for melting, production waste, and finished products. According to M. Smishko, several lumps of sintered glass, which can be regarded as waste from glass melting, were also found there. The weight of the glass finds from object 30 of the recent research was about 2 kg. Taking into account these finds as well as more than 200 glass fragments discovered by M. Smishko, the total weight of the glass could have been about 3 kg. A detailed description of some these finds is given below.

The semi-finished glass products in the form of “lump” glass of different sizes are divided into two groups – glass of green (Fig. 3) and blue colours (Fig. 4). The morphological features of semi-finished products of the blue glass group differ from the other group, as besides glass lump fragments, it includes pieces of melted pieces in the form of threads, plates, lumps, etc. The group of melted fragments shows traces of strong decay (Fig. 4). The largest fragments in these two groups are sized up to 10 cm. The weight of the green glass group is about 1.0 kg, and that of the blue shades glass group is about 0.2 kg.⁶

Lumps of raw glass of different colours (green, olive, ruby, or blue) are regularly found in the fillings of the objects or in the settlement layers. However, none of the other structures studied so far in Komariv had such an amount of raw glass. Lumps of raw glass are a typical find in secondary workshops in the Roman provinces (Amrein 2001:19, fig. 10), they are also known in the form of “hoards of glass” (Höpken and Schäfer 2006: 80, fig. 17). Komariv is the only place in European Barbaricum where lumps of raw glass have been recorded. In other barbarian settlements, cullet was used for production of glass, e.g., in Klein Köris (Gustavs 1989: 147–180).

Several groups of finds from this feature represent the remains of the technological process of vessel blowing. Such intermediate forms from a glass drop to a finished product made by the free-blowing technique are conventionally divided into so-called “caps” (the connection point to the blowpipe), the body itself (the side part of a rounded shape), and the backside (the place of the pontil attachment).

Several examples of the so-called “caps” were recognised, all made of transparent colourless glass (Fig. 5). Concentric traces of the flow of the mass of glass and small air

⁵ The list of the finds is given including those made in 1957.

⁶ The weight is indicated only for material from the recent excavations.



Fig. 3. Komariv, object 30. Semi-finished glass of green colour.
Authors: O. Petrauskas and R. Shyshkin.

bubbles are visible on the surface and fractures of these items. Three large fragments with traces of broken connection to a blowing iron are preserved. One fragment has a clearly distinguished rim of the glass mass thickening (Fig. 5:3). The outer diameter of the tube was 1.5–2 cm, the inner diameter was 1.2–1.6 cm. On the edges of two “caps”, traces of cuts at the places of separation from the finished product are clearly seen. The diameter of the vessel rims could be 9.5 cm and 9 cm (Fig. 5:1). By their morphological features (blowpipe diameter, rim of finished products) and traces



Fig. 4. Komariv, object 30. Semi-finished glass of blue colour.
Authors: O. Petrauskas and R. Shyshkin.

of technological processes, the “caps” from Komariv do not differ from similar finds in glass workshops in the Roman provinces (Amrein 2001: 24, 27–30, figs 15, 20–23).

The finished products found in the structure are almost completely preserved vessels or fragments of beakers, bowls, phialae, and possibly, jugs.

Conical beaker with overlapping ovals and applied base. The colour of the vessel’s glass is transparent with a slight greenish tinge. Decoration of the vessel is made of blue glass (ovals, drops inside ovals, threads) in different tinges. The base bottom is formed from a twisted glass thread applied laid in spirals. The rim is straight and has a teardrop section. Three large ovals with large drops in the centre were applied on the walls and at different heights. Two glass threads were applied below the rim. Dimensions of the restored vessel are: total height – 14 cm, rim diameter – 12 cm, base diameter – 3 cm (Figs 6, 7). The vessel belongs to Type 195 according to H.-J. Eggers (1951: 94, 178, N392, Salthammer).⁷

⁷ The vessels of the described type, including those coming from the Cherniakhiv culture, were studied by I. A. Gavritukhin, who recognized them as a separate series of Salthammer group of vessels of the Kosino type, according to his classification, and dated them to the 5th century (Gavritukhin 1999: 57–59, fig. 11). Over time, a new “typology” of the same author appeared, and these beakers were consolidated into the Izvoare type and divided into the Kholmske and Kosino series. The Kholmske series was dated to phase D₁, while the second series remained in phase D₂/D₃ and D₃ (Gavritukhin 2017: 93, fig. 6). An attempt to replace the classification of these beakers developed by H.-J. Eggers with the new typology does not look successful. Besides, the date proposed by I. A. Gavritukhin did

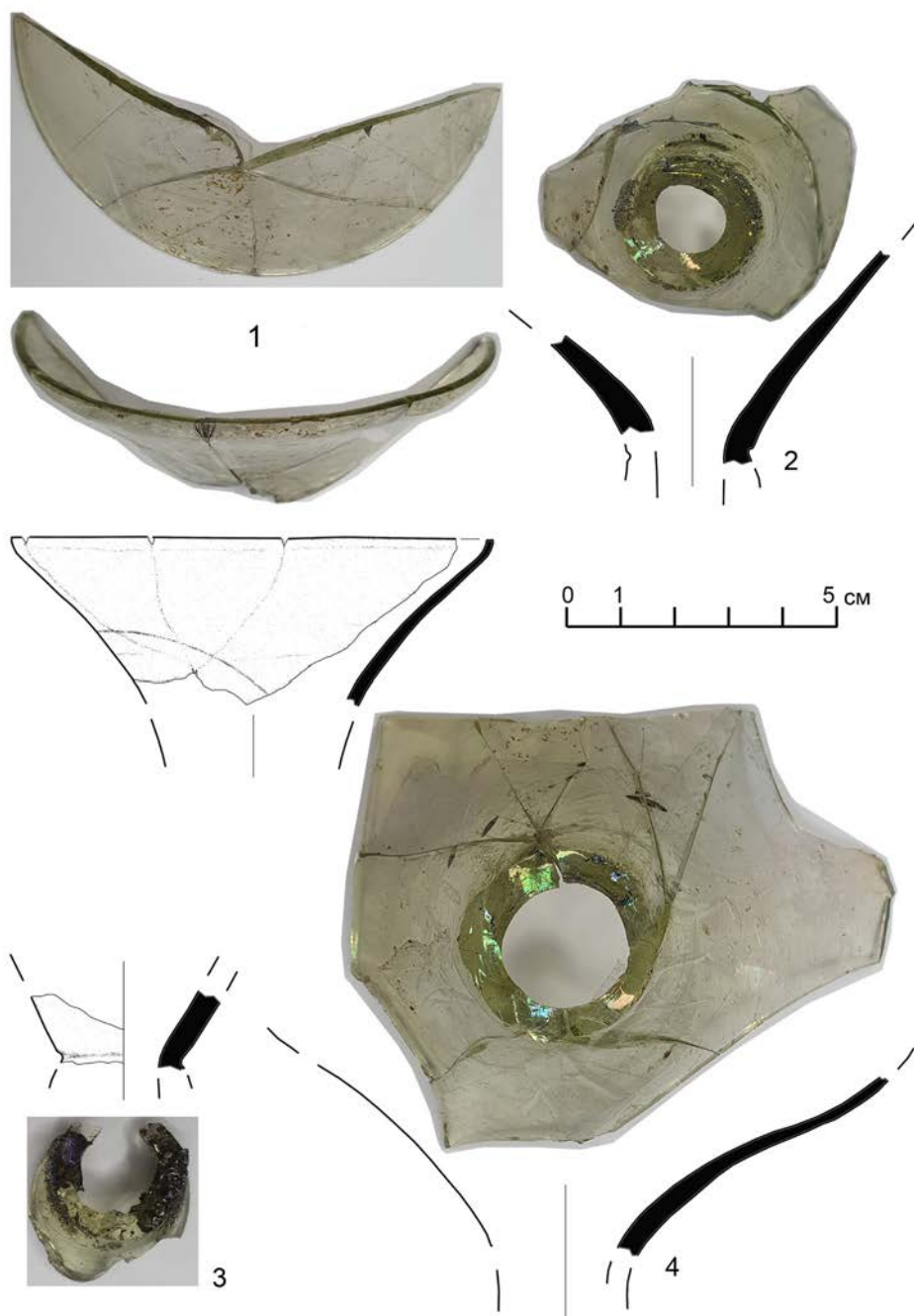


Fig. 5. Komariv, object 30. Fragments of glass caps. Authors: O. Petrauskas and R. Shyshkin.

These beakers are distinguished by their unique specific form, structure, and decoration: a conical body, an applied foot and base, and large applied ovals. Additional elements are drops inside ovals and circular cordons. All known specimens are made of one-colour glass – the body and the decoration. Similar beakers in the Cherniakhiv culture complexes have been found in Izvoare, Burial VIII – single-colour, greenish (Vulpe 1957: 300, figs 319–320), Independența, Burial 20 – single-colour, drops between the ovals, circular ribbed band below the rim (Rau 2008: figs 4:6; 7:9); Kholmske, Burial 51 – monochrome, brown, vertical decorative ridges between ovals (Gudkova and Fokeev 1984: 70–71). The materials from Izvoare, Burial VIII contained accompanying items – plate fibulae, Thomas type / III comb, two small-sized amphorae⁸ and other items that are confidently synchronized with the same final stages of the Cherniakhiv culture. Fragments of a beaker of a similar type possibly come from Burial 264 in Cherneliv-Russkyi. The thin-walled vessel was probably conical with blue threads in the form of cordons and part of an oval. The burial with accompanying items belongs to the final phase of the cemetery (Gereta 2013: 80, fig. 155. 5–7).

According to G. Rau, the replacement of the wheel-cut medallions technique with applied glass trails should be attributed to the “horizon of Attila”, that is, the 5th century. Based on this, the glass beaker from Izvoare was dated accordingly (Rau 1975: 482–483, fig. 5.2). Typologically similar beakers (olive, single colour) come from Kosino/Koson.⁹ By analogy, Joachim Werner dates the assemblage of fibulae in hoards with coins to the second half of the 5th century (Werner 1959: 427). Jaroslav Tejral narrowed somewhat the date of the complex referring to the transition phase D₂/D₃: AD 440–460/470 (Tejral 2007: 86, fig. 19). The new drawing of the beaker was made and the new name to the site was given in the work by István Bona and Margit Nagi, who also dated the burial to the Hunnic times (Bona and Nagi 2002: 17, fig. I). An almost similar glass beaker (green, single-colour, transparent) comes from a burial in Tarnaméra, which is also dated to the mid-5th

not fundamentally introduce anything new to the justified dates in the works by I. Werner, G. Rau, and others.

- 8 One of them may be dated back to the late Roman period. The second vessel is very similar in morphological and dimensional characteristics to the amphorae of subtypes 1 and 2 of the type Shelov F, which are dated by S. Didenko to AD 350–380. (Shelov 1978: 16–21; Didenko 2018: 51–78, figs 52–58). However, a different design of the vessel foot from Izvoare allows us to consider it a derivative of these subtypes and, in general, date it back to the second half of the 4th century. The types were defined, and the dating of the amphorae was carried out by S. Didenko, and we take this opportunity to express our sincere gratitude to him.
- 9 The site has received several names in the literature: Mező-Kaszony (Hampel 1905: 51–53, fig. I), Kosino /Mezőkaszony (Werner 1959: 424.), and Barabás-Bagolyvár (Bona and Nagi 2002: 17), Barabás / Cosino (Tejral, J. 2007: 86). The modern, correct spelling of the Ukrainian and Hungarian border settlement is: Ukr., Koson, Hung., Mezőkaszony.

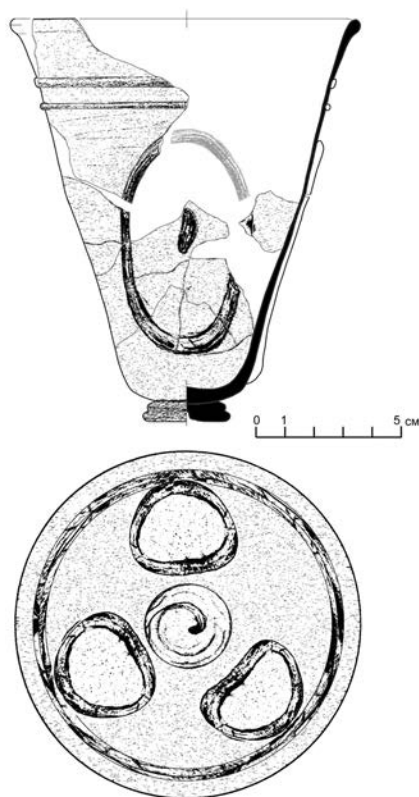


Fig. 6. Komariv, object 30. Beaker with applied decoration – horizontal trails and ovals.
Authors: O. Petrauskas and R. Shyshkin.

century (Bona and Nagi 2002: 20, 241). Summing up, the beakers of Eggers type / 195 of the Salthammer / Koson' form are undoubtedly dated to the 5th century, and most likely to the middle of that century.

Glass cup-bowl with an almost straight neck, rounded rim slightly bent outwards, globular wall, a ring base, and circular threads applied under the rim (Figs 6 and 7). The glass of the vessel, including the body, base, and overlapping threads is transparent with a slightly greenish tinge. A thin thread is applied in three lines between the rim and the ridge around the body with one end curving back on itself and the other one merging with the lower row. The base is formed of an applied thick glass roll, given a “frilled” upper edge by shallow impressions. The traces of a pontil are visible on the base.

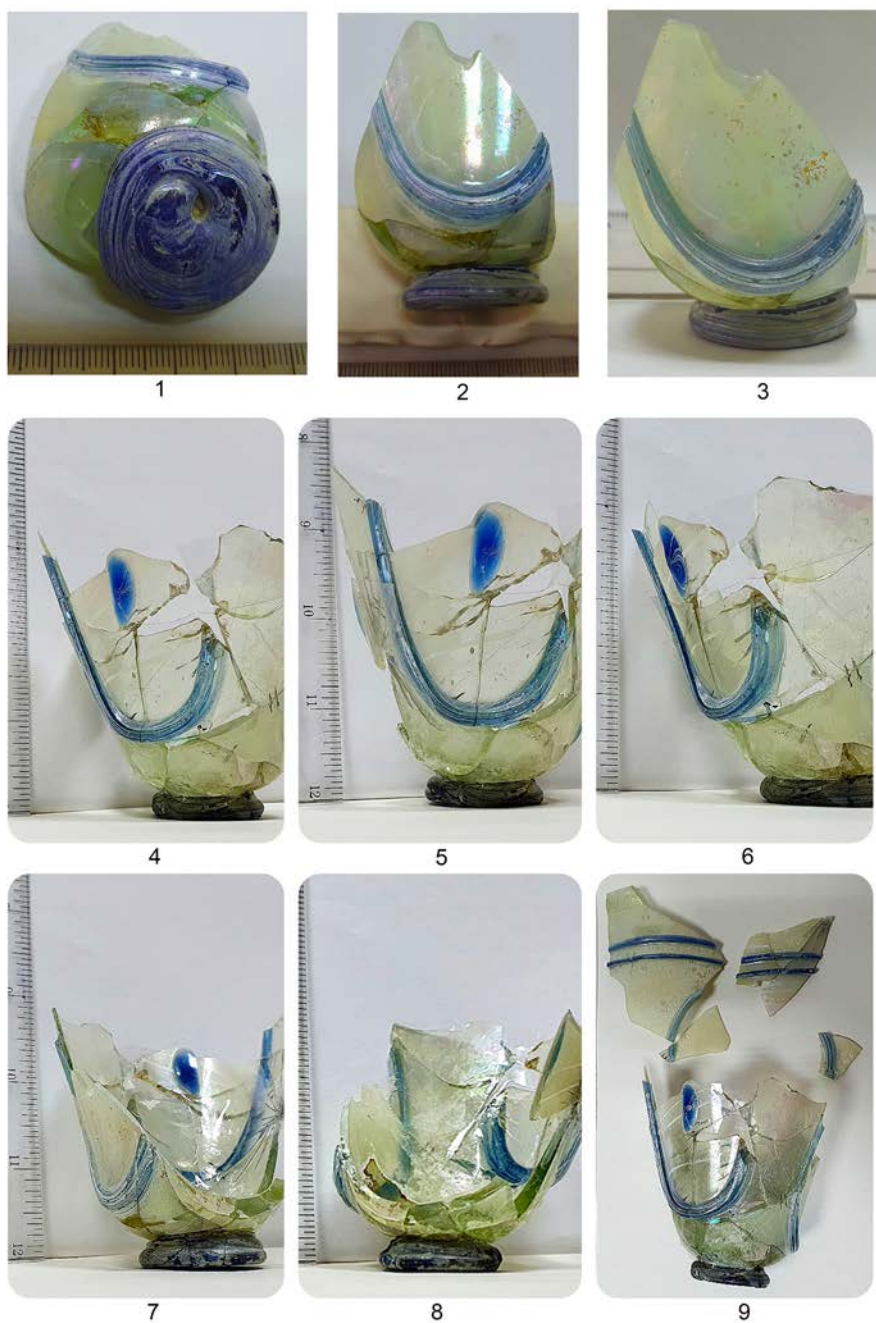


Fig. 7. Komariv, object 30. Beaker with applied decoration. Authors: O. Petrauskas and R. Shyshkin.

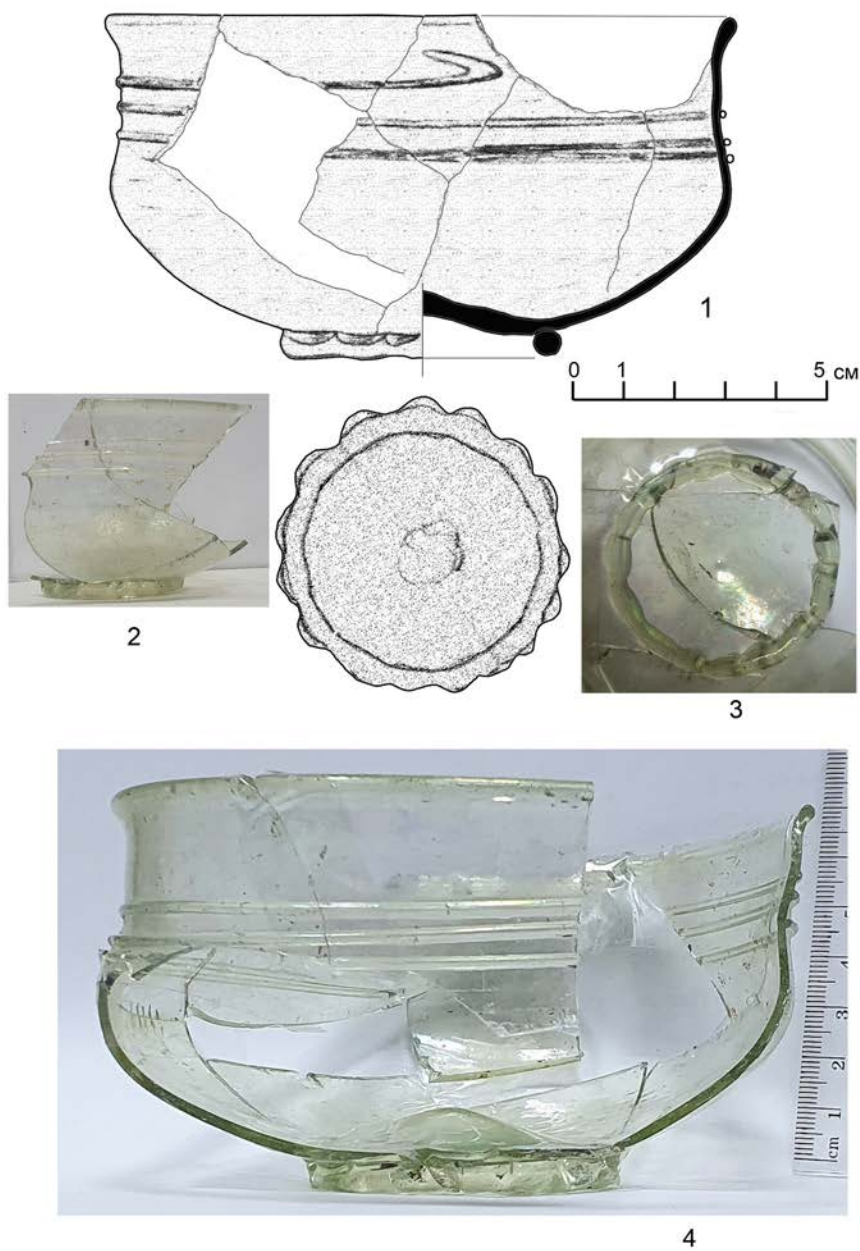


Fig. 8. Komariv, object 30. Glass bowl. Authors: O. Petrauskas and R. Shyshkin.

The diameter of the rim is 12 cm, and the base is 5.6 cm in diameter (Fig. 8). No direct analogies to this form have been found among Roman and later glassware. Some similarities can be seen in the design of the footring bases of glass vessels of the Byzantine period (Fig. 9:8–11), dated to the 5th–6th centuries (Harden 1936: N 89, 91, 358; Kucharczyk 2007: 52, fig. 3:6–12).¹⁰ From the Roman period finds in Ukraine, a glass vessel with a similar design of the base comes from a burial site near the village of Gleshchava (Terebovlia district), about 100 km northwest of Komariv in an inhumation burial (Figs 4, 5). Here, the body was laid with its head to the east in a stone cist under a barrow (2.5 m high, about 10 m in diameter). A broken glass “cup” was placed at its feet, and two flints were placed near its right palm. The lower part of the vessel only can be restored: the rounded body (jug or deep bowl), the base has the form of a twisted cord applied to the body (Demetrykiewicz 1900: figs 24, 25, 132). Similar forms, but made of clay, are known from the cemeteries of the Cherniakhiv culture: Berzhanka / Burial 5 (Volianyk 1974: 73, fig. 7:2), Velyka Bugaivka / Burial 28, 55 (Petrauskas and Shyshkin 2013: 175, 188, figs 93:6; 106:3) and others (Fig. 9:2, 6, 7). The ceramic analogies have the features of bowls and beakers of the early stages of the Cherniakhiv culture – high proportions, an elongated neck, a ridge near the middle of the vessel height, a globular wall, and plastic circular cordons.

Thin-walled conical beaker (Fig. 10:3). Three wheel-cut horizontal lines survived on the external side of the wall. The vessel glass is transparent and colourless, and small air bubbles are visible. The wall fragment diameter is 12 cm, and its thickness is up to 0.2 cm (Fig. 10:3). There is no doubt that beakers of this type belong to the final phase of Cherniakhiv culture and are typical for the period D₁ (Rau 1972: 167, fig. 52; Gorokhovskiy 1988: 45–46; Kasanski and Legoux 1988: T. XVIII, pl. IV, 56; Tejral 1997: fig. 11).

Beaker with wheel-cut ornament (Fig. 10.1 and 10.3). The form is close to cylindrical and has straight rims. A shallow wheel-cut band encircles the body below the rim, the remains of a wheel-cut oval are visible still lower. The surface of the oval has vertical grooves later altered. The transparent glass is colourless. The wall thickness is 0.35/0.4 cm, and that of the rim is 0.35 cm. The fragment could have belonged to the vessels of the IA or IB series according to Eldrid Straume (Straume 1987: figs 2, 3). Considering the shallowness of the incisions, the fragment most likely belonged to vessels of the first series, known as Eggers 230 or Kovalk type (Eggers 1951: 180–181, Beilage 98, fig. 16; Rau 1972: 109–214). The appearance of these beakers in the Cherniakhiv culture is confidently associated with the phase C₃, and the main time of their distribution falls in the phase D₁ (Petrauskas 2018: 536–563).

¹⁰ In the collection of glass items from M. Smishko's excavations, there are fragments very similar to items of the early Byzantine period (Fig. 9:3).

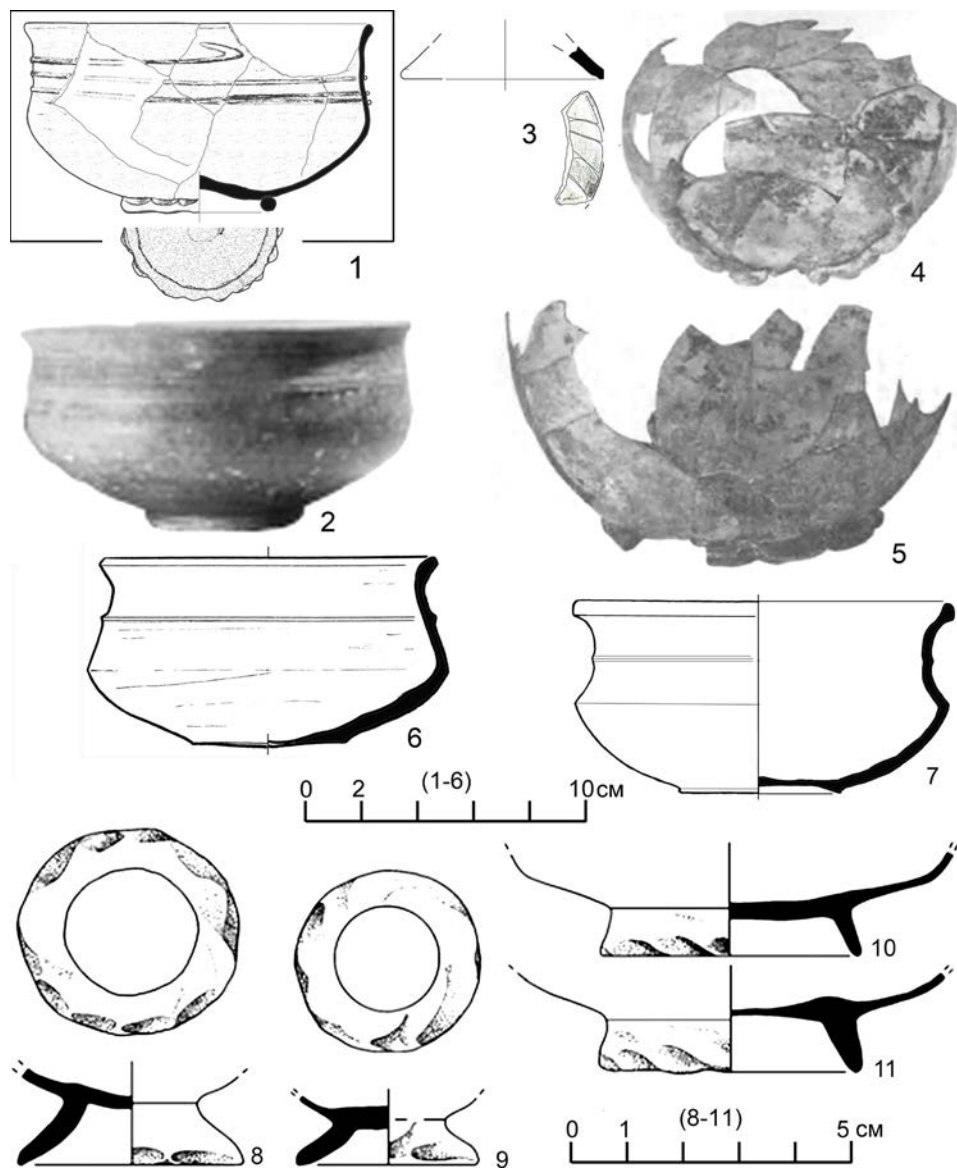


Fig. 9. Glass bowl from Komariv (1), and some analogous finds: Berezhanka (Ukraine, Khmelnytskyi region; 2), Komariv (Ukraine, Chernivtsi region; 3), Gleshchava (Ukraine, Terebovlianskyi district; 4, 5), Velyka Buhaivka (Ukraine, Kyiv region; 6, 7); Kom el-Dikka in Alexandria (Egypt; 8–11). 1, 3, 6, 7 by O. Petrauskas and R. Shyshkin; 2 by Volianyk 1974: 73, figs 7: 2; 4, 5 by Demetrykiewicz 1900: figs 24, 25, 132; 6, 7 by Petrauskas and Shyshkin 2013: 175, 188, figs 93: 6; 106: 3; 8–11 by Kucharczyk 2007: 52, fig. 3:6–12.

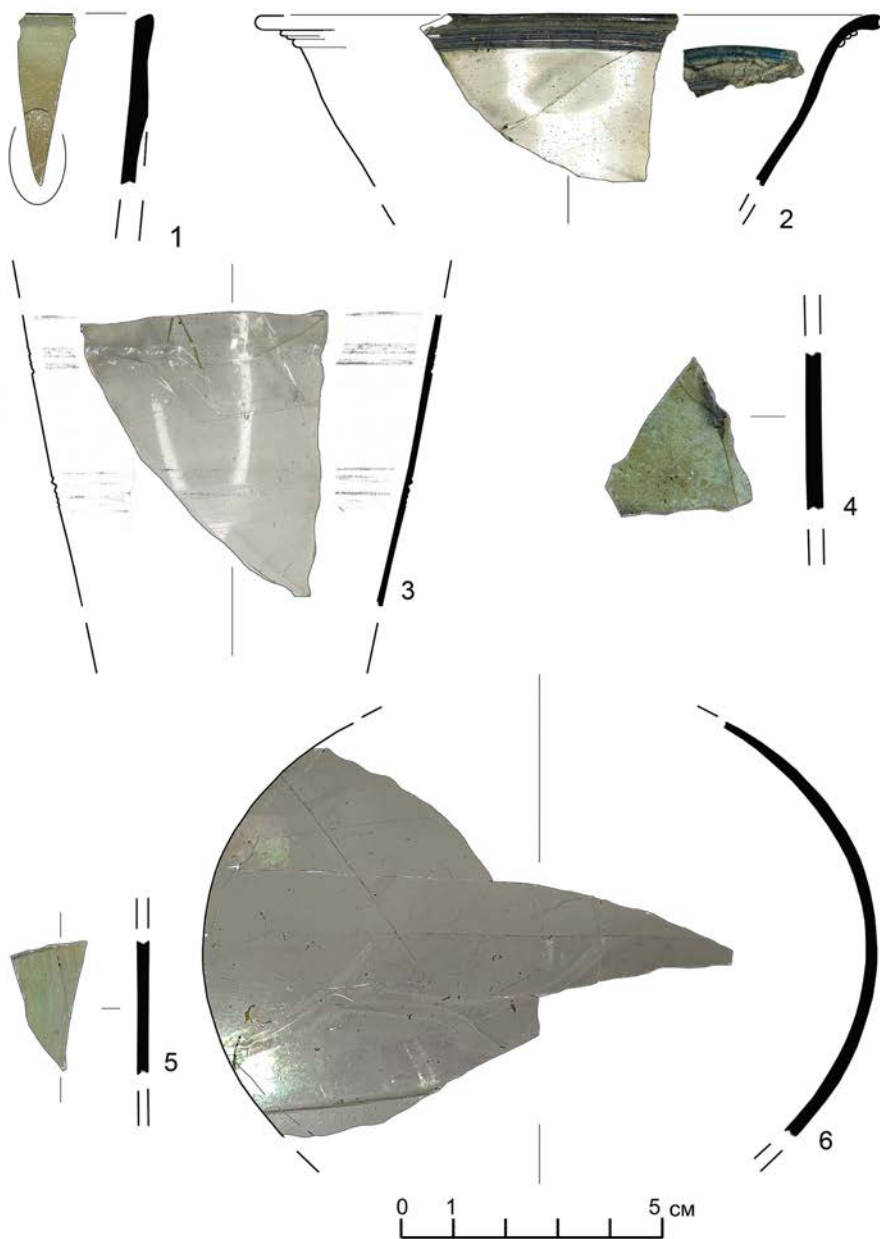


Fig. 10. Komariv, object 30. Glass ware (1–3), window glass (4, 5), glass ball fragment (6).
Authors: O. Petrauskas and R. Shyshkin.

Fragments of ball-like glass objects. Several wall fragments of 3–4 unidentified forms have been found. The wall is 0.2 / 0.4 cm thick, and the vessel diameter is about 12–13 cm. The glass is transparent and colourless or with a pronounced green tinge, showing horizontal traces of flow of glass mass, and small air bubbles. Similar elements can be found in well preserved forms – flasks, phialae, balsamaria, or jug-shaped vessels. The missing profile parts of both edges make it difficult to identify the vessels precisely. The only fragment of the handle that may have belonged to a jug has other visual glass characteristics. Therefore, we consider these fragments are parts of the so-called “glass bubbles” / Glasblase, which represent intermediate stages in the production of glass vessels.¹¹ Such intermediate forms from a glass drop to a finished product made by the free-blowing technique are conventionally divided into so-called caps (the connection point to the blowpipe), the body itself (the side part of a rounded shape), and the backside (the place of the pontil attachment). Fragments from similar forms are regarded as waste from the technological process resulting from end product manufacture, and in most works, such fragments are referred to as production waste or glass cullets intended for recycling (Rütti 1991:158, fig. 101: 031, 034, 037–044; Seibel 1998: 64, fig. 25; Amrein 2001: 23, 43, figs 12, 43:1–3).

Window glass is represented by two fragments with flat surfaces and uniform thickness (the larger fragment is 3 × 3 cm; Fig. 10:4, 5). Considering glass thickness and colour, we can talk about two different windowpanes. The transparent glass has a weak and strong greenish tinge. The thickness of one is 0.23 cm, and of the other – 0.34 cm. In late Antiquity, glassworkers knew two main methods of such glass manufacture: cylinder-blowing followed by cutting and casting (Seibel 1998: 65). In Komariv, there are a lot of finds of window glass, and most of the specimens were made by casting. Ol’ga Rummyantseva believes that window glass fragments are secondary raw materials for further melting (Rummyantseva 2017: 159). However, the direct use of window glass in Komariv’s structures is not excluded, which may be evidenced by finds in the residential part of the settlement, where glass was not processed.

Glass vessel – a bowl or phiale in the form of low hemisphere with widely outwards flared rims. The glass of the bowl is transparent and colourless, and the glass of the overlain threads is light blue. The walls near the rim have a visible bend outwards. The rims are teardrop-shaped in cross-section and have a thin applied layer on the outside – a blue

11 We believe that the use of the term “glass bubble” for this type of findings is the most successful. A ball – or sphere-like shape implies a certain symmetry of the vessels. The shape of the bubble, as of a volume filled with a substance, in this case with air, was formed of a rounded shell of various, usually asymmetric, shapes during free-blowing.

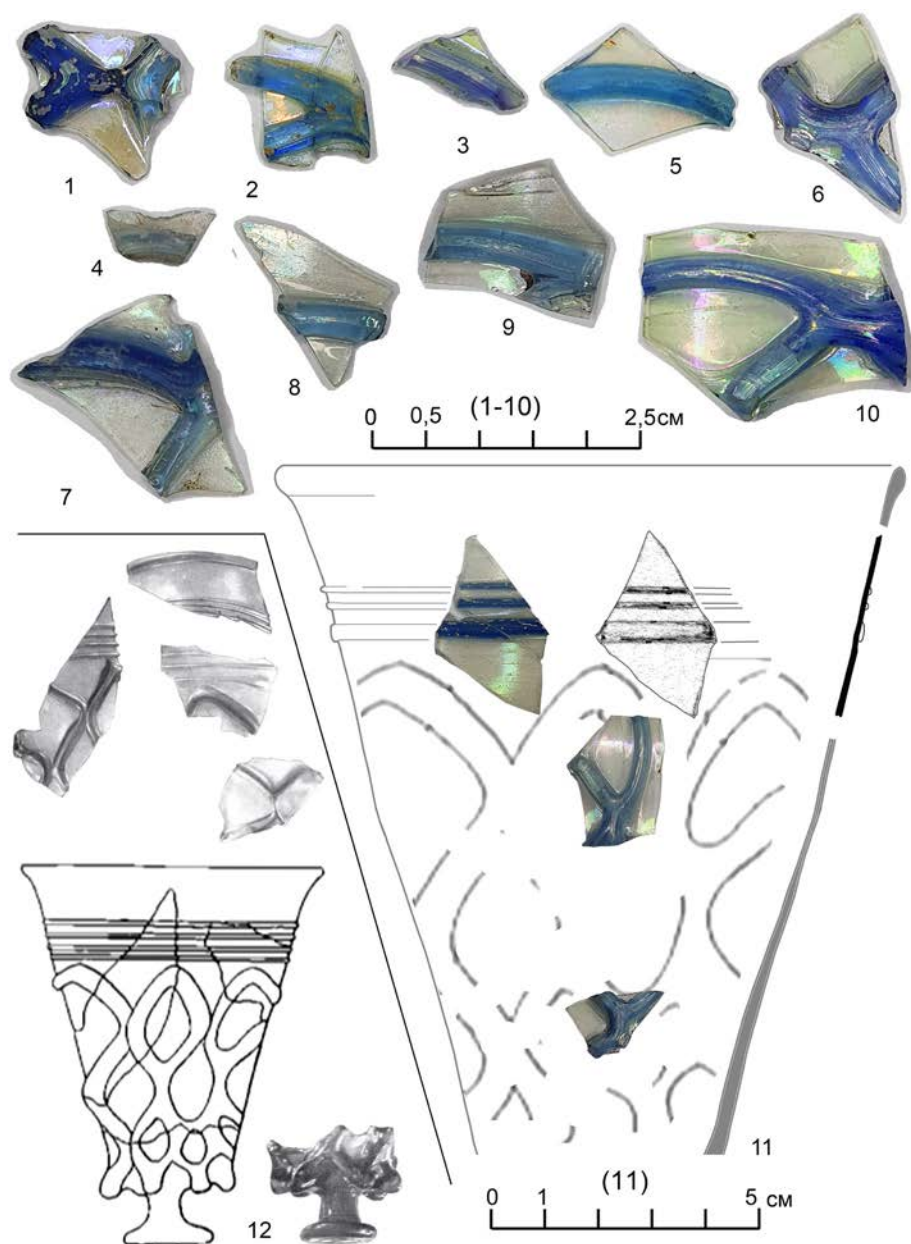


Fig. 11. Komariv, object 30: fragments of thin-walled glass vessel with applied reticulate ornament (a beaker?; 1–11). Nova Maiachka, Kherson region, Ukraine Vessel (not to scale; 12).

1–11 by O. Petrauskas and R. Shyshkin; 12 by Kropotkin 1970: 109, figs 73:6, 70:1–5;
Zasetskaya 1994: 100–103, figs 10:1–7, 48:3.

glass overlay along the entire length. Below the rim, there is a fused band of three blue threads placed close to each other and uniform in their thickness. The rim is 12 cm in diameter, 0.25 cm thick, and the thickness of the wall is 0.19/0.2 cm (Fig. 10:2). The most similar forms and features of decoration were found in the vessels of the 4th–early 6th centuries in Great Britain and Bulgaria. These are vessels with wide rims and multi-row band of thin glass threads of blue or light blue colour under them and bands of the same colour on the rims (Evison and Marzinzik 2008: 93, fig. 1:7; Cholakova 2015: 265, fig. V.16).

Glass vessel with applied reticulate ornament, probably a beaker. Several fragments that could have belonged to such a thin-walled vessel have survived. The fragments are characterized by the uniform thickness of the body, the colour of the glass of the vessel (transparent, colourless) and the decoration (blue, transparent), as well as by the decoration applied in the form of circular horizontal threads and trails in a reticulate pattern. The fragments preserved are part of the wall of the upper part of the vessel with three circular cordons (Fig. 11:1) and several body sherds with applied threads (Fig. 11:2–11). The diameter of the preserved parts varies in range from 10 to 15 cm. The wall thickness is 0.09 to 0.22 cm. The diameter of the overlapping bands is 0.1 cm (circular cordons) and 0.3 cm (reticulate threads).

Due to the small size of the fragments, it is impossible to restore the original form of the vessels and its type, unless based on the known analogies.

The reticulate pattern, horizontal cordons, and wall thickness are significant. The combination of such features is known to be specific for the vessels of the Late Roman and early Byzantine times, among which the vessels of the Arnswalde and Nova Maiachka type are the most similar to the described fragments.

Vessels of the Eggert type 199, 200, or Rau / Arnswald are small cylindrical beakers with slightly convex walls, and straight or slightly curved rims, most of them have a ring-like base, and the body is decorated with horizontal cordons and bands in a reticulate pattern. Their body and the overlaying decoration are made of the same glass (colourless or greenish). Average dimensions are: height and diameter of about 10 cm, rim thickness 0.5 cm, wall thickness – 0.3 cm, bottom part thickness – 0.7 cm. These vessels are dated to the phase C₂ (Eggert 1951: 178; 1955: 202, fig. 4; Rau 1972: 172, fig. 57), although a later date is not excluded (Petrauskas 2017: 123–154). As it turns out, archaeologically not many whole forms are known (Fig. 12.12–15): Brøndsager, Burial 2000 (Lund Hansen 2011: 155, fig. 3:b); Rudka (Lund Hansen 2011: 155, fig. 3:l); Arnswalde-Choszczno (Stawiarska 1999: 268, no. 94); Södra Kvinneby (Rau 2008: 235, fig. 2:13; fig. 11:12–15), Mohyliany–Khmilnyk, Burial 5 (Kasparova and Shchukin 1979: 164–165, fig. 7:4); Teremtsy (Likhter and Hopkalo 2007: 189), Igołomia, House 70A (Stawiarska 1999: 268, No. 95). The only case where the form of the vessel is determined by small fragments as Eggert type 199–

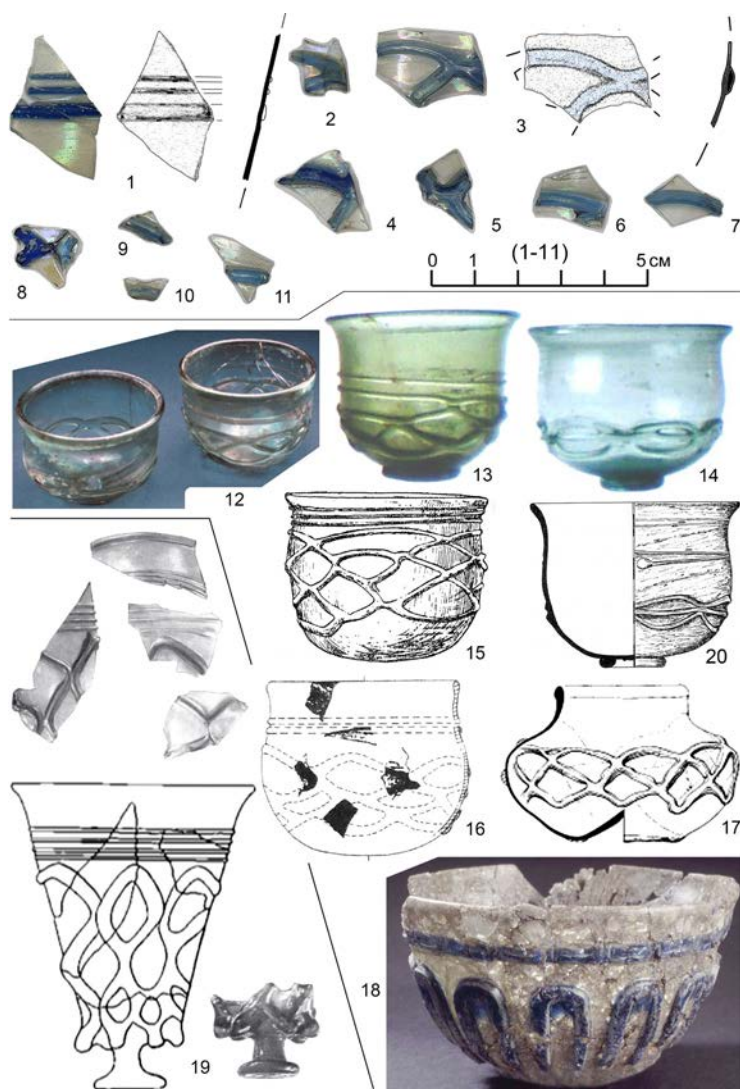


Fig. 12. Glass vessels with the fused decoration dated to the Roman and early Byzantine times: Komariv (Ukraine, Chernivsti region), object 30 (1–11); Brøndsager (Denmark), Burial 2000 (12); Södra (Sweden; 13); Rudka (Ukraine, Ternopil' region; 14); Arnswalde-Choszczno (Poland, West Pomeranian Voivodeship; 15); Opatów (Poland, Świętokrzyskie Voivodeship), Burial 935 (16); Broomfield (England, Essex; 17); Uppåkra (Sweden; 18); Nova Maiachka (Ukraine, Kherson region; 19). Not to scale – 12–19. 1–11 by O. Petrauskas and R. Shyshkin; 12 by Lund Hansen 2011:155, fig. 3:b; 13 by Rau 2008, 235, fig. 2:13; fig. 11:12–15; 14 by Lund Hansen 2011: 155, fig. 3:I; 15 by Stawiarska 1999: 268, no. 94; 16 by Stawiarska 1999: 271, no. 102; 17 by Evison and Marzinzik 2008: 26, fig. 26, no. 150; 18 Stjernquist 2004: 103–151; Fig. 11:16, 18; 19 by Kropotkin 1970: 109, figs 73:6, 70:1–5; Zasetskaya 1994: 100–103, figs 10:1–7, 48:3.

200 and which had a reticulate design of blue threads (Fig. 12.16) is Burial 935 in Opatów (Stawiarska 1999: 271, no. 102). However, the burial complex itself belongs to the IV phase of development of the cemetery, which is synchronized with the phases C₃–D (Madyda-Legutko *et al.*, 2011: 10, 213). Decoration of the vessels' walls with a reticulate pattern is also typical for vessels (of various shapes) known from the Roman provinces, e.g., in Cologne, where they mainly date to the 3rd century (Fremersdorf 1959: figs 110, 115–117).

The vessel from Nova Maiachka (Fig. 12.19) represents another type of thin-walled vessels with a reticulate pattern. The vessel has a bell-shaped body, with an applied tall foot. Decoration is composed of horizontal thin threads applied under the rim and massive threads all over the body, forming a reticulate pattern (Kropotkin 1970: 109, figs 73:6, 70:1–5; Zasetzkaya 1994: 100–103, figs 10:1–7, 48:3). According to the description, the glass of the vessel and the decoration are the same – transparent and colourless. The complex dates to the Hunnic period. The use of overlapping cords in compositions of multi-row waves is also known in glassware of the 4th–6th centuries in Britain, as exemplified by the vessel from Broomfield (Fig. 11:17) made of glass of a rich blue colour (Evison and Marzinzik 2008: 26, fig. 26, no. 150).

The described fragments of the vessel from Komariv are similar to the vessels of the Hunnic times in Europe. The style of sloppily applied blue threads is typical for thin-walled glass vessels of the Hunnic period. Such specimens were found in the Cherniakhiv culture sites – in Kosanove and Zhuravka (Petrauskas 2021: 21), and are also known in Western Europe sites of the 4th–5th centuries, for example, the beaker from Opatów mentioned above, the bowl from Uppåkra (Stjernquist 2004: 103–151; Fig. 11:16, 18) etc.

In addition to the glass products, other materials were found in the excavated structure making it possible to determine the period of its existence and functional purpose.

The mirror fragment is close to products with concentric circles, which are connected by radial cordons and a loop on the reverse side used to hang it. I. Werner categorized such mirrors as the Chmi–Brigetio type and dated them to the 5th century (Werner 1956: 19–22, fig. 45). Mirrors of this type are known from the area of the Cherniakhiv culture: Vilshanka, Lesky, Maslova, and Dmytrivka, which belong to its latest phases (Petrauskas 2021: 17–18).

The two Roman coins are a denarius of Hadrian (117–138) and a bronze coin of Constantine the Great (330–335).¹² The latter marks the *terminus post quem* of the absolute date of the complex in Komariv. Finds of copper / bronze Roman coins of the 4th century within the Cherniakhiv culture are typical for the Dnister river catchment. Their distribution there is associated with the inhabitants

¹² The coins were identified by K. V. Myzgin. We take this opportunity to express our gratitude to him.

of the Cherniakhiv culture, who served as *foederati* in the Roman army (Magomedov 2006: 48–50).

The bronze fibulae with upturned foot and with a triangular (trapezoidal) section stem, which is decorated with stripes of zigzag ornament on the long sides is a distinctive form. Similar fibulae are common in the western and southern regions of the Cherniakhiv culture, including the Dnister River catchment. The zigzag-like pattern on the fibula stem is known in the fibulae of the Dnister Basin and in the area to the west thereof (Kazanski 2022: 39–54). To date, the largest collection of fibulae of this type consisting of eight specimens has been found in Komariv. The earliest typologically similar items come from Werbkowice and Ryzhavka, dated to the end of phase C₂ – beginning of C₃ (Kietlińska and Piętka-Dąbrowska 1961: fig. 34:1; Kropotkin 1962: 4, fig. 26; Petrauskas 2017: 125), other ones, from burials in Mykolaivka, are dated to the phase C₃ / D₁ (Petrauskas 2016: 96–98), and the latest version presented among the described materials is dated to the phase D₁ / D₂. The evolution of these fibulae follows the general principles of development of a large group of fibulae with upturned foot of the Cherniakhiv culture. This is demonstrated by changes in the proportions of the body cross-section (from bars to plates), additional processing of the body (facets, body casting, etc.), additional decorative elements (extensions), etc. The lamellar body and the presence of zigzag-like stripes certainly refer the specimen to later forms of fibulae of this type. The second bronze fibula has an upturned foot and a ribbon-like body of over 5 cm in height. It also belongs to the latest variants of this group of fibulae of the Cherniakhiv culture (Gorokhovskiy 1988: 34–46).

Thus, the results of the works carried out in Komariv in 2019 and 2021 give us the possibility to draw some conclusions about the objects studied in the investigated part of the settlement.

The structure with the remains of glass production (object 30) is located in the production part of the settlement. This is a second type of structures which can be evidently associated with the glass production – it is the buried design structure. The first type is the glass melting furnace studied by M. Smishko in 1965. To determine the original form of the structure undoubtedly associated with glass processing in Komariv is impossible without complete publication of the materials of the previous studies. The glass finds presented above can be divided into two groups – glass prepared for further melting (semi-finished products and production waste) and finished products (beakers, bowls, phialae). The dating falls in phases D1 and D2, that is, the Hunnic times. The glass-making workshop belongs to the same period as the building on the stone foundation (object 27) and they could have formed a single complex. The nature of the finds and the dating of object 30 show that glass processing in the Cherniakhiv culture was practiced also in the Hunnic times.

REFERENCES

- Amrein, H. 2001. *L'atelier de verriers d'Avenches: l'artisanat du verre au milieu du 1er siècle après J.-C.* Lausanne. Cahiers d'archéologie romande 87 (Aventicum, 11).
- Bona, I. and Nagi, M. 2002. *Gepidische Gräberfelder am Theissgebiet*. Budapest.
- Cholakova, A. 2015. *Networks of distribution at the margins of the Empire: late antique glass vessels from the Lower Danube region*. Unpublished Phd thesis, University College London.
- Demetrykiewicz, W. 1900. Poszukiwania archeologiczne w powiecie trembowelskim. *Materyały Antropologiczno-Archeologiczne i Etnograficzne* 4: 493–125. Kraków.
- Didenko, S. V. 2018. *Antychnyi keramichnyi import u Cherniakhivskii Kulturi na terytorii Ukrainy*. Unpublished Phd thesis, Institute of Archaeology of National Academy of Sciences of Ukraine. https://shron1.chtyvo.org.ua/Didenko_Serhii/Antychnyi_keramichnyi_import_u_cherniakhivskii_kulturi_na_terytorii_Ukrainy.pdf. Access at 5th June 2024.
- Eggers, H.-J. 1951. *Der römische Import im freien Germanien*. Hamburg.
- Eggers, H.-J. 1955. Zur absoluten Chronologie der römischen Kaiserzeit im Freien Germanien. *Jahrbuch des römisch-germanischen Zentralmuseums Mainz* 2: 196–244.
- Evison, V. and Marzinzik, S. (eds) 2008. *Catalogue of Anglo-Saxon glass in the British Museum*. Kingswood/London. The Trustees of the British Museum. The British Museum Research Publication 167.
- Fremersdorf, F. 1959. *Die römische Gläser mit Fadenauflege in Köln (Schlangenfadengläser und Verwandtes)*. Köln. Denkmäler des römischen Köln 5.
- Gavritukhin, I. 2017. Glass Vessels of the Final of the Chernyakhov Culture. In *Ústav archeologie a muzeologie FF MU* (ed.), *Na hranicích impéria – Extra fines imperii. Jaroslavu Tejralovi k 80. Narodeninám. Jaroslavu Tejralovi k 80. Narodeninám*, 83–109. Brno.
- Gavritukhin, I. O. 1999. Khronologicheskie indykatory finala chernyakhovskoy kul'tury. In M. Levada (ed.), *Sto let chernyakhovskoy kul'tury*, 48–86. Kyiv.
- Gereta, I. P. 2013. *Chernelevo-Ruskyi mohyl'nyk*. Kyiv-Ternopil. Oium 3.
- Gorokhovskiy, E. L. 1988. Khronologiya chernyahovskikh mogil'nikov Lesostepnoy Ukrainy. In B. Rybakov (ed.), *Trudy V Mezhhdunarodnogo kongressa arkheologov-slavistov, Kiev, 18–25 sent.1985 g.* 4, 34–46. Kyiv.
- Gudkova, A. V. and Fokeev, M. M. 1984. *Zemledel'tsy i kochevniki v nizov'yakh Dunaya I–IV vv. n.e.* Kyiv.
- Gustavs, S. 1889. Werkabfälle eines germanischen Feinschmiedes von Klein Körös, Kr. Königs Wusterhausen. *Veröffentlichungen des Museums für Ur- und Frühgeschichte Potsdam* 23, 147–180.
- Hampel, J. 1905. *Altertümer des frühen Mittelalters in Ungarn*. Braunschweig. Druck und Verlag von Friedrich Vieweg und Sohn.
- Harden, D. 1936. *Roman glass from Karanis found by the University of Michigan Archaeological Expedition in Egypt, 1924–29*. Ann Arbor. University of Michigan Press.
- Höpfken, C. and Schäfer, F. 2006. Glasverarbeitung und Glaswerkstätten in Köln. Roman glass in Germania Inferior. In *Interregional comparisons and recent result. Proceedings of the International Conference, held in the Gallo-Roman Museum in Tongeren (May 15th 2005)*, 74–85. Tongeren. Gallo-Romeins Museum.
- Kasparova, K. V. and Shchukin, M. B. 1979. Mogil'nik Mogilyany – Khmel'nik v Rovenskoy oblasti. *Trudy Gosudarstvennogo Ermitazha* 20: 147–168.
- Kazanski, M. M. 2022. Fibuly skhidnogermańskoi tradytsii z mogyl'nyka Sen-Sheron u Pivnichniy Gallii. *Arkheologiya* 1: 39–54.
- Kasanski [Kazanski], M. and Legoux, R. 1988. Contribution à l'étude des témoignages archéologiques des Goths en Europe orientale à l'époque des Grandes Migrations: la chronologie de la culture de Černjahov récente. *Archeologie Medievale* 18: 12–53.

- Kietlińska, A. and Piętka-Dąbrowska, T. 1961. Werbkowice–Kotorów, distr. de Hrubieszów, tombe de femme á inhumation No 1. *Inventaria Archaeologica Polone* 5: 32–34.
- Kropotkin, V. V. 1962. *Otchet ob arkheologicheskikh raskopkakh Kremenchugskogo otryada Pridneprovskoy ekspeditsii v 1962 g.* Archives of the IA NANU in Kyiv, №1962/62.
- Kropotkin, V. V. 1970. *Rimskie importnye izdeliya v Vostochnoy Evrope (II v. do n.e. – V v. n.e.)*. Moskva. Svod arkheologicheskikh istochnikov D1–27.
- Kucharczyk, R. 2007. Late roman / early byzantine glass from the auditoria on Kom el-Dikka in Alexandria. *Polish Archaeology in the Mediterranean* 17(9): 45–53.
- Likhter, Yu. A. and Hopkalo, O. V. 2007. Sklianii posud z poselenia Teremtsi. *Zbirnik naukovikh prats Naukovo-doslidnoho instytutu ukrainoznavstva* 15: 188–196.
- Lund Hansen, U. 2011. Contacts during the 3rd to 5th centuries AD between southern Scandinavia and the Black Sea area – glass and glass fragments found in graves and trading centers in northern and central Europe. *Siedlungs- und Küstenforschung im südlichen Nordseegebiet* 34: 151–164.
- Madyda-Legutko, R., Rodzińska-Nowak, J. and Zagórska-Telega, J. 2011. *Opatów Fpl. 1: ein Gräberfeld der Przeworsk-Kultur im nordwestlichen Klempolen*. Warszawa-Kraków. Monumenta archaeologica barbarica 15(1/2).
- Magomedov, B. V. 2006. Monety yak dzherelo do istorii plemen Cherniakhivskoi kultury. *Arkheolohiia* 4: 46–52.
- Petrauskas, O. V. 2014a. Deyaki pidsumky doslidzhen kompleksu pamiatok piznorymskoho chasu bilia s. Komariv. *Oium* 4: 165–184.
- Petrauskas, O. V. 2014b. Komariv – ein Werkstattzentrum barbarischen Europas aus spätrömischer Zeit (Forschungsgeschichte, einige Ergebnisse und mögliche Perspektiven). *Ephemeris Napocensis* 24: 87–116.
- Petrauskas, O. V. 2016. Skliani posudyny typu Eggers\230 v Cherniakhivskii kulturi: khronologichniy aspekt. *Oium* 5: 89–106.
- Petrauskas, O. V. 2017. Übergang von der Stufe C2 zu C3 in der Chernjachov – Kultur (Auf dem Beispiel der Glasschalen mit Ringboden). *Ephemeris Napocensis* 27: 123–154.
- Petrauskas, O. V. 2018. Glasbecher vom Typ Eggers 230 in der Chernjachiv-Kultur: Zur relativen Chronologie. *Studia Barbarica* 1: 536–563.
- Petrauskas, O. V. 2021. Cherniakhivska kultura ta huny (za materialamy arkheolohichnykh pamiatok Ukrainy). *Arkheolohiia* 2: 15–32.
- Petrauskas, O. V. and Shyshkin, R. G. 2013. *Mogil'nik i poselenie chernyakhovskoy kul'tury u s. Velikaya Bugaevka (arkheologicheskii istochnik)*. Kyiv. Oium 2.
- Rau, G. 1972. Körpergräber mit Glasbeigaben des 4. nachchristlichen Jahrhunderts im Oder– Weichsel–Raum. *Acta praehistorica et archaeologica* 3: 109–214.
- Rau, G. 1975. Spätantike Glasfunde im Karpatenraum. *Zeitschrift für Ostforschung* 24(1): 464–485.
- Rau, G. 2008. Spätantike Facettschliffgläser in Nord- und Osteuropa. *Acta Praehistorica et Archaeologica* 40: 221–224.
- Rumyantseva, O. S. 2017. Steklodelie za limesom: novye dannye ob organizatsii proizvodstva i khronologii masterskoy v Komarove. *Stratum plus* 4: 141–164.
- Rütti, B. 1991. *Die römischen Gläser aus Augst und Kaiseraugst*. Augst. Römermuseum. Forschungen in Augst 13(1–2).
- Seibel, F. 1998. *Technologie und Fertigungstechniken römischer Glashütten am Beispiel der Ausgrabungen im Hambacher Forst: aktualistische Vergleiche und Modelle*. Berlin.
- Smishko, M. Yu. 1956–1957. *Shchodennyk rozkopok na poselenni III–IV st. n.e. bilya s. Komariv Chernivetskoi obl. u 1956–1957 rr.* Archives of the Instytut ukrainoznavstva im. I. Krypiakevycha in Lviv.

- Smishko, M. Yu. 1957. *Zvity pro rozkopky na poselenni III–IV st. n.e. bilya s. Komariv Chernivetskoi obl. u 1956–1957 rr.* Archives of the NA IA NANU. Kyiv, №1957/37. f.o. 3583–3584.
- Smishko, M. Yu. 1964. Poselennia III–IV st. n.e. iz slidamy sklyanogo vyrobnytstva bilya s. Komariv Chernovetskoi oblasti. *Materialy i doslidzhennia z arkhologii Prykarpattia ta Volyni* 5: 67–80.
- Stawiarska, T. 1999. *Naczynia szklane okresu rzymskiego z terenu Polski.* Warszawa.
- Stjernquist, B. 2004. A Magnificent Glass Bowl from Uppåkra. In L. Larsson (ed.), *Continuity for Centuries. A ceremonial building and its context at Uppåkra, southern Sweden*, 103–151. Lund. Uppåkrastudier 10. Acta Archaeologica Lundensia, Series in 8° 48.
- Straume, E. 1987. *Gläser mit Facettenschliff aus skandinavischen Gräbern des 4. und 5. Jahrhunderts n. Chr.* Oslo.
- Shelov, D. B. 1978. Uzko gorlye svetloglinyanye amfory pervykh vekov nashey ery: klassifikatsiya i khronologiya. *Kratkie soobshcheniya Instituta arkhologii AN SSSR* 156: 16–21.
- Shchapova, Yu. L. 1978. Masterskaya po proizvodstvu stekla u s. Komarovo (III–IV vv.). *Sovetskaya Arkheologiya* 3: 230–242.
- Tejral, J. 2007. Das Hunnenreich und die Identitätsfragen der barbarischen «gentes» im mitteldonauroaum aus der Sicht der Archäologie. In J. Tejral (ed.), *Barbaren im Wandel. Beiträge zur Kultur- und Identitätsumbildung in der Völkerwanderungszeit*, 55–120. Brno. Archeologický Ústav Akademie Věd České Republiky.
- Volianyk, V. K. 1974. Mohylnyk Cherniakhivskoi kultury u verkhiviah r. Goryn, *Arkheolohiia* 13: 65–79.
- Vulpe, R. 1957. *Izvoare. Sapaturile 1936–1948.* București.
- Werner, J. 1956. *Beiträge zur Archäologie des Attila-Reiches.* München.
- Werner, J. 1959. Studien zu Grabfunden des V. Jahrhunderts aus der Slowakei und der Karpatenukraine. *Slovenska Archeologia* 7: 422–438.
- Zasetskaya, I. P. 1994. *Kul'tura kochevnikov yuzhnorusskikh stepy v gunnskuyu epokhu (konets IV– V vv.).* Saint Petersburg.

Tyras in Late Antiquity

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The article presents materials related to the existence of Tyras in the late Roman period. Based on the available data, it is assumed that there were two phases in the existence of the city in Late Antiquity. In the first phase (second half of the 3rd to the third quarter of the 4th century AD), life in the city was restored after the barbarian raids. The Goths became the main military and political force in the steppe area of the Northwestern Black Sea region. Tyras was still receiving imported goods. However, its life was completely included in the orbit of barbarian interests. Cherniakhiv-tradition artefacts appeared in their material culture. Tyras was also receiving imported goods from Asia Minor, the Bosphorus, Greece, and the Danube region. Amphoras of the Gaza type were imported in small quantities. In the second phase (last quarter of the 4th to the beginning of the 5th century AD), Tyras was still inhabited by the people who had not left the city during the Hun invasion. A few dishes of the Late Roman C / Phocaean Red Slip Ware group were delivered there, and glass dishes of Middle Eastern production and lamps with Christian symbols were used. Eastern imperial coins were in circulation. It is not known how the relations of the inhabitants of Tyras with the Huns developed. Obviously, the population was small and soon left the city forever.

KEY-WORDS: Tyras, The Roman Empire, barbarians, import, trade, cultural and economic contacts

The study of the late Roman period within the history of the ancient centres in the Northern Black Sea region is difficult, primarily because there are almost no epigraphic documents. Our ideas are based on a few written sources and the archaeological data.

During the Scythian Wars, which began in AD 230 [SHA, Maxim. et Balb. XVI, 3], barbarians attacked some cities on the Black Sea coast, and they did not bypass Tyras.

Based on the study of archaeological materials from Olbia, Valentina Krapivina identified two layers of destruction. In her opinion, they could be associated with two “Gothic” destructions of the city in 230 and 260 AD (Krapivina 1991: 47–49). Having also analysed the materials from Tyras, the researcher stated that the latest

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of the destruction layers are dated by the presence of Alexander Severus coins (222–235; Krapivina 2009b: 198–200). It should be noted that coins of all emperors up to and including AD 275 are present in Tyras. From her point of view, Tyras and Olbia had a largely similar fate in Late Roman times, so it can be assumed that the first destruction of Tyras could also have occurred in AD 230 (Krapivina 2009b: 201–204).¹ The city quickly recovered from these raids. Tyras and Olbia were most likely destroyed for the second time during the mass campaign of the Black Sea tribes against the Balkan provinces of the Roman Empire in AD 269. At that time, most of the cities and settlements in the Northern Black Sea region were destroyed.

A different vision of the problem was presented by Vitalii Zubar and Nataliia Son. They believe that the city blocks were destroyed during the attack of the Carpi in AD 214, and Tyras was captured by the barbarians not in AD 230–240 but in the period of the late 250 to the mid 260 AD (Zubar and Son 2007: 202). New materials to clarify or refute these assumptions have not yet been found.

The fact that life in the city was restored is evidenced, among other things, by the materials of the so-called “post-gothic² house”, which existed until the end of the 4th century AD (Kravchenko and Korpusova 1975: 20–42). Isaac Kleyman has classified this and several other structures as the remains of the fourth layer of the settlement according to his stratigraphic scheme (Kleyman 1979: 70–71). He previously dated this layer to the mid-3rd–4th centuries AD (Kleyman 1976: 118). At the same time, these data demonstrate the deterioration of construction techniques and a more intense barbarisation of Tyras compared to the previous period.

Greyware pottery of the Cherniakhiv type, three-layer combs with bronze rivets, bronze axe-shaped pendants, Cherniakhiv fibulae and possibly some Almgren VII fibulae probably came to the city with the direct participation of the barbarians. It should not be completely ruled out that some of the objects of the Cherniakhiv culture could also have been used by the inhabitants of the city. However, the vast majority, obviously, belonged to the bearers of the tradition themselves.

After the mid-3rd century AD, the ceramic tradition changed completely. In percentage terms, the quantity of Cherniakhiv-type vessels in the ceramic assemblage of the Roman period is not large. However, if we talk about the period of the second half of the 3rd–4th / early 5th centuries AD, we can observe the almost

1 Perhaps, traces of fires in some rooms of the Roman period date back to this time. In one of them, on the floor under collapsed debris, a skeleton was buried, probably the defender of the house, next to which lay an iron spearhead (Furmanskaya 1958: 22–23, 29). Nataliia Son suggested her own argument regarding the dating of room No.24. She connects the man's death with the invasion of the Carpi in AD 214 (Son 1986: 144–146, 151).

2 It seems to us that the use of such a term to the entire Late Antique stage (Gudkova 1979: 100) is not entirely justified. Given the current historical situation around Tyras after the “Scythian” wars, the term “Gothic” period should rather be used.

complete disappearance of Red Slip Ware and greyware pottery associated with the previous ancient tradition. The presence of products associated with the tradition of the Cherniakhiv culture and changes in construction indicate an influx of new population and a transformation of material culture.

Yurii Pavlenko and Nataliia Son believe that Tyras acquired the status of a military-economic centre of the barbarian association after the barbarian domination had been established in the Lower Dnister area. They also suggested that the city became political, primarily a political-redistributive place for the unification of the Visigoths-Tervingi (Pavlenko and Son 1991: 11; Son 1993: 57). This conclusion does not seem unreasonable, however, in our opinion, it can be applied to the realities of the 4th century. The Cherniakhiv culture objects, which would be dated to the middle – the end of the 3rd century AD, practically do not stand out. It can be assumed that having ruined the cities and settlements in the Northwestern Black Sea area during the Scythian Wars, the barbarians mostly were not settling in this territory. It is possible that some small number of them remained in the city. Boris Magomedov expressed a similar point of view regarding Olbia. According to him, the military-administrative centre of royal power was located in the city (Magomedov 2007: 51; 2009: 278). This idea requires further development, however, the presence of a Cherniakhiv culture settlement on the site of Olbia in the 4th – early 5th centuries AD has already been reliably established (Twardecki *et al.*, 2017: 45–52).

A different point of view on the historical development of the city-states in the Northwestern Black Sea region during Late Antiquity has also been presented (Samoylova 2008: 140–143; Krapivina 2011: 48–51; 2013b: 89–90, 92). However, archaeological materials did not prove the hypothesis about the city's generally ancient material culture and population until the end of its existence.

Later, in the 4th century AD, when sites of the Cherniakhiv culture spread in the Budzhak steppe and densely surrounded Tyras (Gudkova 1999: 366, fig. 33), the remaining residents were unable to resist the external threat and completely fell into the cultural orbit of the new population. According to Serhii Didenko, one of the reasons for the appearance of the Cherniakhiv tribes in the southern lands could be their desire to be in the zone of constant contact with ancient civilisation, where they could obtain Roman products, as well as control the transit of those goods to the forest-steppe tribes (Didenko 2018: 179).

The influence of Tyras on the bearers of the Cherniakhiv culture is not traced. The city's role in the political and administrative association of that time is largely unclear. It could have been a traditional centre of transit trade, through which the Cherniakhiv tribes from the south received goods in amphorae.

The review of old materials and the study of new data has made it possible to identify items belonging to the ceramic tradition and other elements of the barbarian

material culture. These findings clarify the picture of the city's development and confirm the researchers' conclusions that Tyras was fully included in the economic and political orbit of the Gothic Union of tribes while retaining some ancient traditions. The barbarian influence on Late Antique Tyras was certainly stronger than previously thought.

After the departure of the Roman garrison, the city's military potential was not sufficient to protect its inhabitants. It is difficult to determine the status of Tyras's inhabitants during the second half of the 3rd–4th centuries AD; however, their subordinate position in relation to the Goths is quite clear.

In AD 332, Emperor Constantine once again defeated the Goths and made an agreement with them, according to which the barbarians were obliged to supply the Empire with a certain number of soldiers for an annual monetary reward, and they were also allowed to trade on the Danube (Budanova 2001: 146). It can be assumed that the barbarians also took upon themselves the protection of the cities they had conquered from new raids, since they were interested, among other things, in the established trade relations and obtaining various goods. Later, when Emperor Valens defeated the Goths in AD 369, an agreement was concluded with them, according to which barbarians were forbidden to cross the river and go to the right bank; restrictions were also imposed on trade with the Romans (Amm. Marc., XXVII, 5). Tyras was not mentioned in the reports of ancient authors about those events, however, given that having crossed the Danube, the emperor found himself “in enemy land”, it is likely that the city could remain in the field of interests of the Goths.

The question of relations with the Huns remains open. Hunnic items in Tyras are unknown. Single Hunnic burial complexes and finds have only been recorded far from Tyras. Recently, a few individual items have begun to be identified, the dating of which covers the range from the fourth to the first half of the fifth centuries, and wider (fourth to sixth centuries AD).³ It is also worth remembering that individual forms of Cherniakhiv greyware pottery date back to the period at the beginning of the 5th century AD, which corresponds to the upper phase of the existence of the culture.

So, let us briefly consider the archaeological sources related to the time of interest to us.

³ A bronze lamp and a fragment of a Phocaeian bowl (about them below) are kept in the Bilhorod-Dnistrovskyi Museum of Local Lore. These are unidentified finds. In the card index they are listed as “Old Find” and found in the fortress. Nevertheless, we have no reason to believe that they were found not in Tyras, but in some other place. This is all the more likely since they were found in the uppermost, Late Antique layers.

HOUSEBUILDING

We do not know whether the barbarians built their houses next to the houses of the local population, occupied the existing houses or built their houses on top of those of the local people. The so-called “post-gothic house” (Kravchenko and Korpusova 1975: 20–42) was covering the corner of the Roman vexillation room. To the southeast of this house, several buildings were explored, some of which overlapped the vexillation building. Isaac Kleyman noted that the Late Antique layer and buildings lie above the layer of the 2nd – mid-3rd century AD (Kleyman 1976: 115, 118–119, pl. 2). In the southern part of Tyras, two Late Antique houses have also been discovered, built into the space of a peristyle courtyard from the 2nd – first half of the 3rd century AD (Samoylova 2013: 464, pl. 111).

AMPHORAE

In Late Roman times, Tyras received goods in amphorae from Asia Minor, the Bosphorus, the Eastern Mediterranean, and the Danube region.

Amphorae of types Zeest 90 / Dressel 24 / Scorpan VII (Fig. 1:1–2)

In Tyras, they are found more often in the context of the 2nd–3rd centuries AD, like most finds of all variants of this type in the Northern Black Sea region (Scorpan 1977: 274–277). In Upper Moesia, such amphorae date from the 2nd to the beginning of the 4th century AD (Bjelajac 1996: 55).

Type Zeest 72 / Krapivina 19 / Dyczek 31 (Fig. 1:3–9)

Production is associated with Panticapaeum or its district. Amphorae of this type appeared around the turn of the 2nd and 3rd centuries AD and were produced in the next chronological period, until the middle – end of the 4th century AD.

Type Shelov D / Vnukov C IVD (Fig. 1:10–14)

In addition to the ancient sites, they are well known from barbarian contexts in southwestern Taurica and the Cherniakhiv culture. The amphorae are dated to: the first half of the 3rd century AD (Shelov 1978: 19); at the end of the 2nd – the first half of the 3 AD (Abramov 1993: 47); the last quarter of the 2nd century AD (?) – the second half of the 3rd century AD (Vnukov 2006: 167); 3rd century AD (Ivanova 2011: 296); 3rd – the beginning of the 4 century AD (Krapivina 2009a: 71). Amphorae continued to be introduced at the end of the 3rd and the beginning of the 4th centuries AD, transforming into morphologically simplified late variants (Didenko 2014: 45).



Fig. 1. Amphorae. 1–18, 22 – photo: O. Saveliev; 19–21 after Samoylova 1978.

Type Zeest 79 / Kapitän II (Fig. 1:15–21; Robinson 1959: pl. 15, K 113; pl. 16, L 33; Hayes 1983: fig. 25, 86)

They were probably produced in the Aegean Sea or in the Eastern Mediterranean. They appear in the second half of the 2nd century AD and became most widespread in the 3rd and 4th centuries AD. Several variants of this type are distinguished for the territory of Dacia (Bădescu 2013: 189–198).

Type Forlimpopoli (Fig. 1:22)

They were made in the Northern Italian region from the end of the 1st to the beginning of the 4th century AD. Amphorae in Tyras were found in contexts of the 2nd–3rd centuries AD. The largest concentration in the Northern Black Sea region is observed in Tanais (complexes that perished in the middle of the 3rd century AD) and Komariv, a barbaric site associated with the bearers of the Cherniakhiv culture (3rd – beginning of the 4th century AD; Paczyńska and Naumenko 2004: 309–312; Didenko 2016: 243).

Type Shelov F (Fig. 2:1–2)

They were widespread in the cities of the Northern Black Sea region, such as Olbia, Chersonesos, on the Bosphorus, the barbaric sites of South-Western Taurica, and, of course, among the tribes of the Cherniakhiv culture (Krapivina 1993: 94–95; Magomedov 2006: 52, figs 1, 7–11; Ivanova 2011: 296–303). They date from the beginning of the 4th – the third quarter of the 4th century AD.

Type Samoylova 6 (II) / Paraschiv 9A (Fig. 2:3–5)

Similar amphorae are known in Dinogetia, Beroe, Odessos, where they date to the 4th century AD. They were also used by the carriers of the Cherniakhiv culture (Ștefan 1941: 412, fig. 17, 2; Rikman 1972: 91, fig. 1, 11–13; Gudkova *et al.*, 1997: fig. 1, 15; Magomedov 2001: 63; Paraschiv 2002: 177–178, pl. 7, 45–46; Șovan 2009: pl. 136, 8).

Type Charax 33 (Fig. 2:6)

The ceramic assemblage of the “post-gothic house” from Tyras, which included an amphora of this type, according to A. Sazanov should be dated to approximately the middle of the 4th century AD (Sazanov 2012: 346). Based on the chronology of all the materials of this assemblage, we can talk about its dating even later – the second half of the 4th century AD. A. Abramov dated amphorae of this type to the end of the 4th century AD (Abramov 1993: 52).

Type Delakeu / Zeest 100 / C Snp I (Fig. 3:1–3)

The beginning of their appearance dates back to the second half of the 3rd or the beginning of the 4th century AD. The upper date is determined within the limits

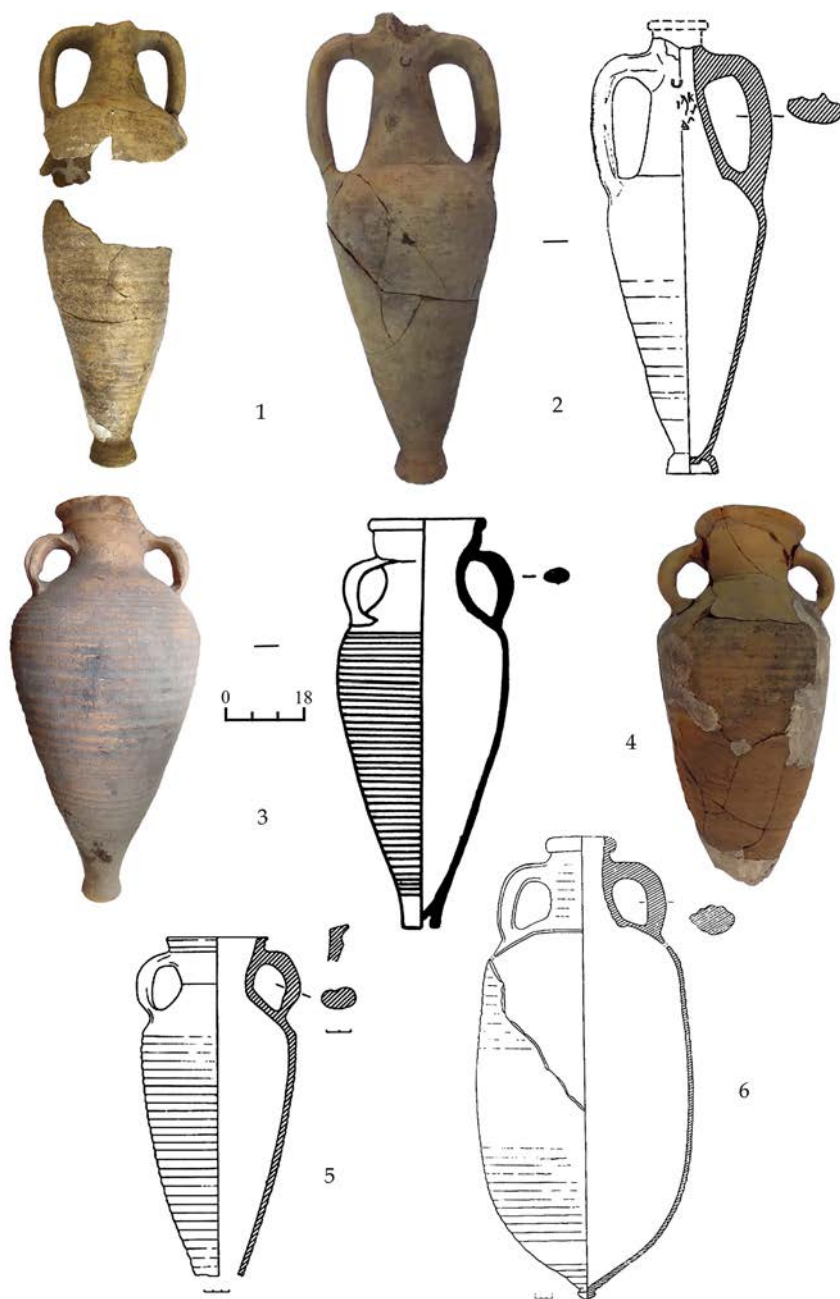


Fig. 2. Amphorae. 1–4 – photo by O. Saveliev; 2, 5–6 after Kravchenko and Korpusova 1975; 3 after Samoylova 1978.

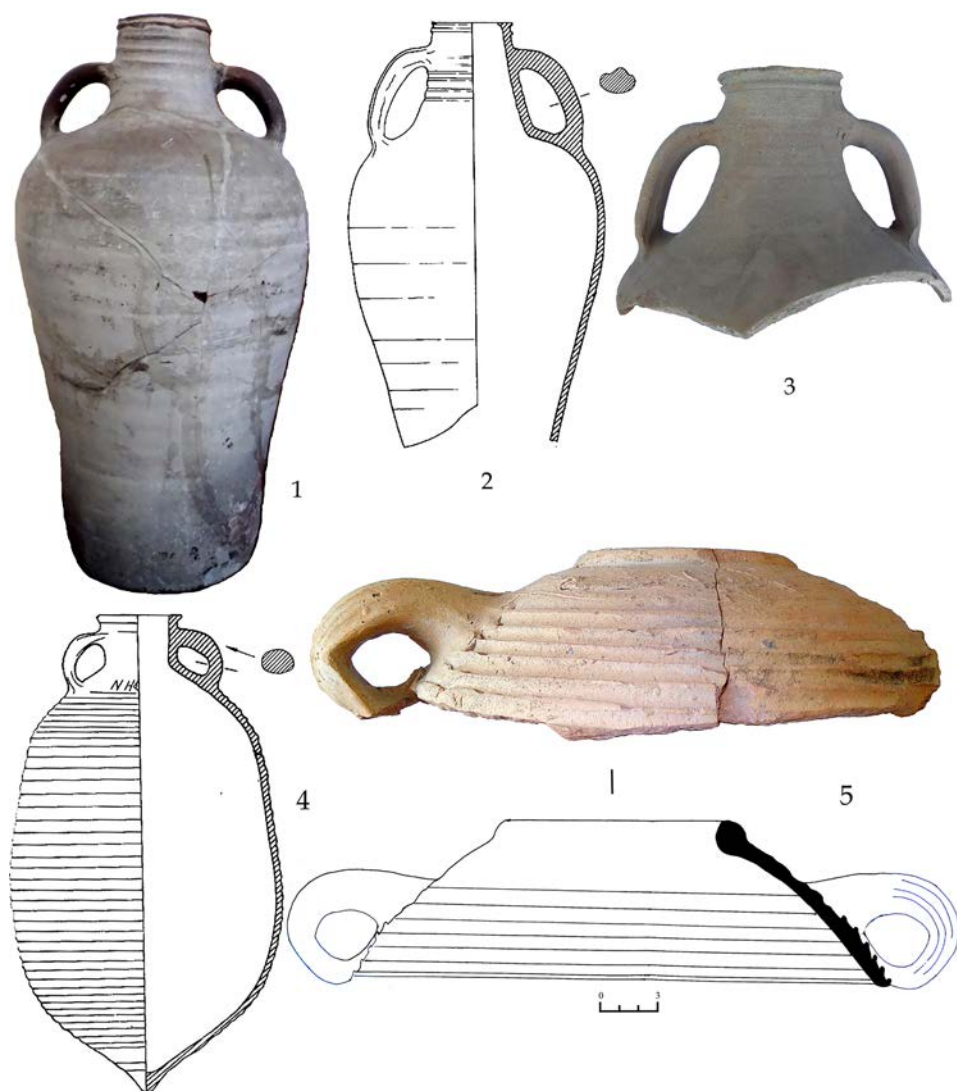


Fig. 3. Amphorae. 1, 3 – photo by O. Saveliev; 5 – photo and drawing by O. Saveliev; 2, 4 after Kravchenko and Korpusova 1975.

of the end of the 5th – the beginning of the 6th century AD, which is indicated by the context of finds in the workshops of Demirci in the area of Sinope and on the Bosphorus (for the dating of amphorae see: Sharov 2007: 170; Kassab Tezgör 2010: 132; Smokotina 2011: 355–360; Yashnaya 2015: 120–139). Morphologically, this group of amphorae is not homogeneous, and subtypes are distinguished in it (Opař 2010: 371–389). The main consumers of Sinope wine in the Northern Black Sea region were the Goths, and the appearance of amphora containers in Tyras and Olbia is probably connected precisely with their requirements (Magomedov 2011: 370–371).

The latest types are *Robinson M 273 amphorae* (Fig. 3:4) and *Gaza/Ashkelon type Palestinian amphorae / Keay LIVB* (Fig. 3:5). A complete amphora of the first type was found in the Cherniakhiv complex “post-gothic house”. Amphoras in the territory of the Western Black Sea Coast of the Robinson M 273 type come from assemblages of the 4th–5th centuries. Their production is associated with the workshops of the Aegean basin (e.g., Opař 2004: 16–18, pl. 9–12). They are well known in the sites of Cherniakhiv culture (Magomedov 2006: 53, pl. 2, 5–8).

Palestinian amphorae date widely, from AD 300 to 450. According to Grzegorz Majcherek, in one of the deposits in Alexandria, almost 30% of the identified fragments of a form similar to those from Tyras date back to AD 375–400 (Majcherek 1995: 167). We know of at least five fragments of Palestinian amphorae. It is possible that we are dealing with one batch of vessels. And in this case, there is no need to talk about permanent ties with the Middle East.

It is interesting to note that not a single fragment has been recorded at Tyras of the Shelov E type amphorae⁴ (peak production occurred in the late 4th and first decades of the 5th century AD), well known at that time in Olbia (Krapivina 2009a: 73, pl. 38, 1–5; 2013a: 643). At the same time, according to Serhii Didenko, there are no amphorae of the Gaza type, which are known in Tyras. This may indicate that Tyras and Olbia were controlled by different groupings of the Goths, who had different vectors of their external trade relations.

LAMPS

The most numerous groups of lamps in Tyras are represented by “ribbed” lamps (Fig. 4:1–3). Made in the 3rd–4th century AD, those lamps were widespread

4 Let us note that in all the reporting documentation on the excavations of Tyras, not a single find of amphorae of this type was noted. Either we are dealing with the difficulty of identification due to the fragmentary nature of the finds, or they really do not exist. In the latter case, this requires a separate explanation.

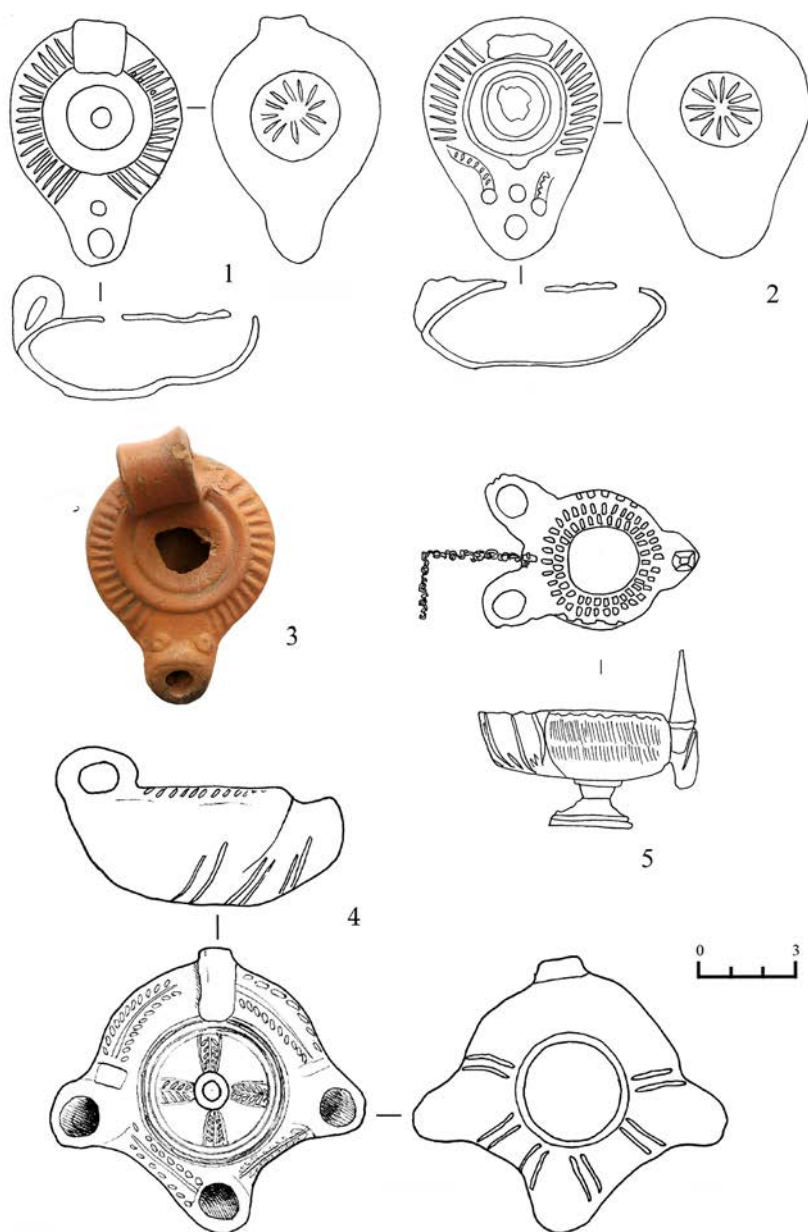


Fig. 4. Lamps. 1–2, 5 – drawing by O. Saveliev; 3 – photo by O. Saveliev; 4 after Fedoseeva 2010.

in the Northern (e.g., Nicorescu 1933: figs 109–113; Soročan 1982) and Western Black Sea areas (e.g., Kuzmanov 1992: 277–279; Topoleanu 2012: 166–167; Kuzmanov and Minchev 2018: 99–110, 397–484).

The latest group consists of lamps with marks in the form of a rider, a rhombus and several letters, analogies to which are unknown (Son and Soročan 1988: 130). We can single out a three-horned grey-clay lamp of a rare type with Christian symbols, for which a date has been proposed of the end of the 4th–5th centuries AD (Fedoseyeva 2010: 145–146; Fig. 4:4). Although in our opinion it may be earlier.

Among the metal lamps, a miniature bronze two-horned specimen is known (Fig. 4:5). A bronze Christian monogram continued the thin handle. A similar lamp is kept in the collection of the Museum of the Diocesan Cathedral in Lugo (Quiroga and Tejera 2017: 191–192). Florin Topoleanu suggests dating this type to the 4th–6th centuries AD (Topoleanu 2012: 224, pl. XVII, 133).

FIBULAE

There are several types of fibulae.

- A. Fibulae of the Almgren group VII type (Almgren 1923: taf. IX; Fig. 5:1–2). According to various criteria, they are divided into series and generally dated to the end of the 2nd–3rd / beginning of the 4th century AD. The specimens from Tyras are close to the fibulae of the Dnipro series, which is identified as belonging to the Cherniakhiv culture (Gorokhovskiy and Gopkalo 2004: 119, fig. 6).
- B. Two-component bow-shaped fibulae (Gorokhovskiy and Son 1989: 75–76, fig. 3). The main period of their use falls in the second third and second half of the 3rd century AD, although they continued to be used at the beginning of the 4th century AD. Such fibulae from sites on the Lower Danube are dated by most researchers to the C2 phase (AD 260/275–310/320) of the European chronology (e.g., Spânu *et al.*, 2016: 246, fig. 1–2, 4, 5).
- C. Fibulae of the Zwiebelknopffibel type (Fig. 5:3–4). This type of brooch was common in the territory from North Africa to Spain and Asia Minor and dates generally to the second half of the 4th century AD (e.g., Keller 1971: 35; Pröttel 1991; Petcović 2010: typ 34; Quast 2015).
- D. Two-component bent tie fibulae of the Cherniakhiv series. Several brooches belong to this group (Fig. 5:5–7). They cover variants 2, 3, and possibly 4 (generally late 3rd–4th century AD; Ambroz 1966: 62–63).
- E. Two-component “military” fibulae. One of them belongs to a large group of the Late Roman period fasteners – the beginning of the era of the Migration period (Fig. 5:8). At first such fibulae appeared in Northern and Central Europe

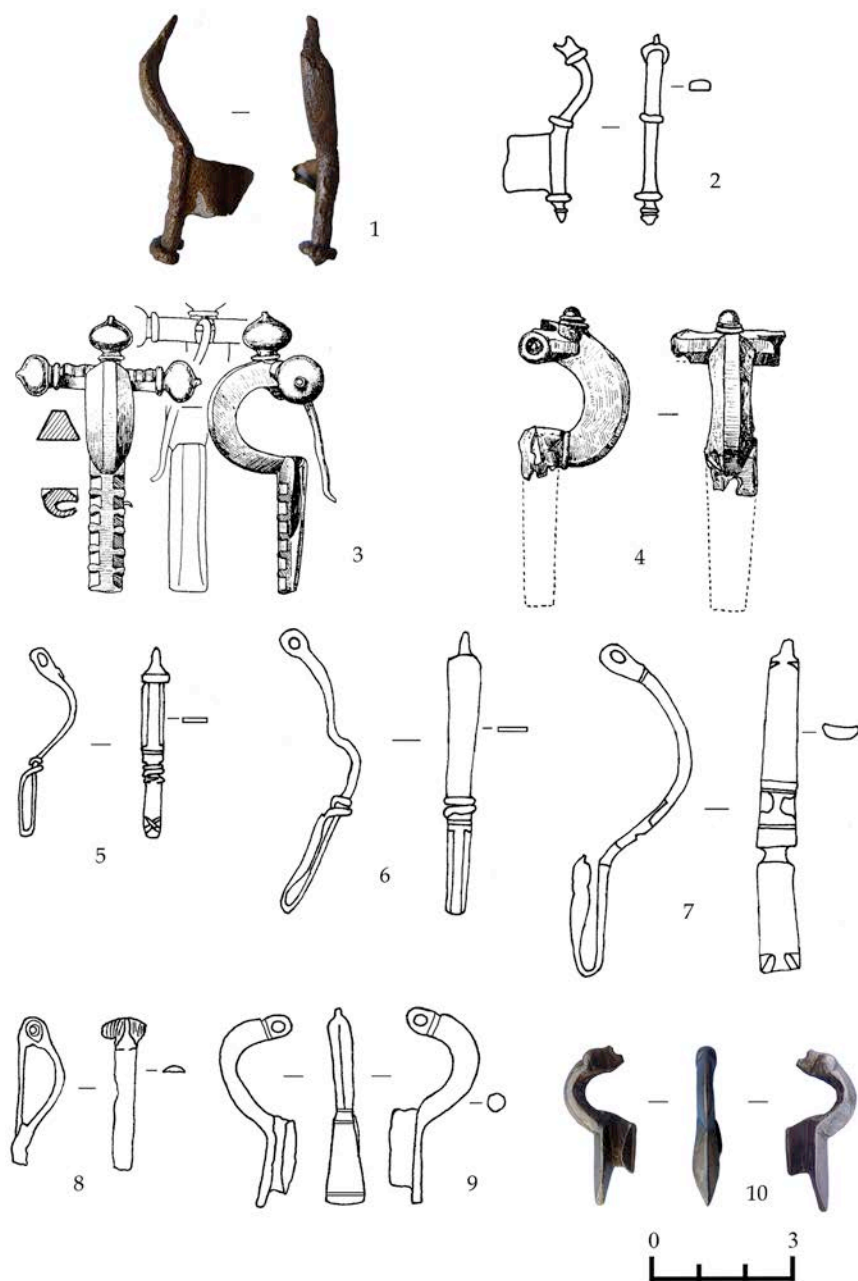


Fig. 5. Fibulae. 1, 10 – photo by O. Saveliev; 2, 5–9 after Saveliev 2013; 3–4 after Gorokhovskiy and Son 1989.

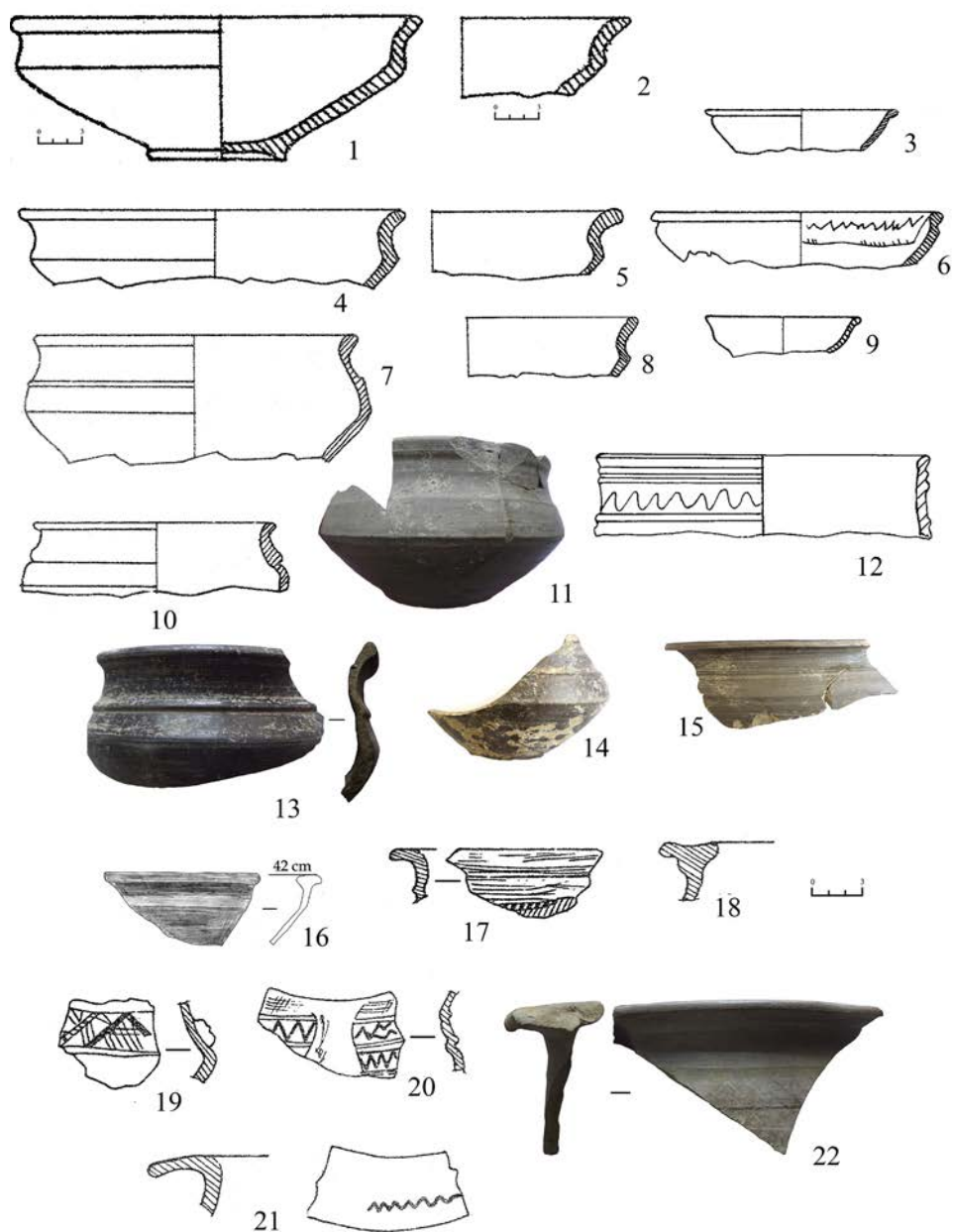


Fig. 6. Greyware tableware. 1–10, 17–21 after Gudkova and Krapivina 1988; 11, 13–15, 22 – photo by O. Saveliev; 12 after Rosokhatskiy *et al.*, 1996; 16 – drawing by O. Saveliev.

and then spread in the area of the Cherniakhiv culture, where they coexisted with bent Almgren VII fibulae. Those are dated to the 4th century AD. Another fibula (Fig. 5:9) belongs to group 138, according to Mechthild Schulze, and dates to the 4th century AD (Schulze 1977: taf. X). The third fibula has a “rhombic” stem and a short solid catchplate (Fig. 5:10). According to its morphological features, it can be dated to the second half of the 3rd – the beginning of the 4th century AD (Gavritukhin 2007: 20–22, fig. 11; Petrauskas 2010: 195–196, fig. 8).

GREYWARE POTTERY⁵

The most numerous items in this group are bowls. Those are bowls with a ribbed S-shaped profile of an open type, ribbed closed type, biconical, round-sided closed type (Fig. 6:1–16). They are decorated with an ornament in the form of a polished net, zigzag, waves. Jars are also known (Fig. 6:17–22). They are always polished and richly decorated with a polished ornament. Goblets are few. For example, a small biconical goblet was found in the “post-gothic house” (Fig. 7:1). The jugs have a biconical or rounded body shape (Fig. 7:2–8). The surface is mainly ornamented with waves, parallel lines, and zigzags.

In general, this group’s greyware pottery is similar to the ceramic assemblages at the Cherniakhiv sites of the 4th – early 5th centuries AD (e.g., Nekrasova 2006: 87–200; Shul’tse and Lyubichev 2009: 218–236, figs 8–10, 12:1–7).

Greyware pots with a rough surface stand out separately (Fig. 7:9–14). Based on the proposed typology, they should probably be attributed to the second (first half of the 4th century AD) and third (middle of the 4th – beginning of the 5th century AD) periods of development (Petrauskas and Petrauskas 2008: 56).

Large vessels made of coarse grey clay-grain storage vessels (Fig. 7:15) – are also known. Sometimes they are ornamented with a cordon, a traced wave or a zigzag. The Cherniakhiv population brought these to Tyras and widely used this type of ceramic (Gudkova 1999: 346–347, fig. 57:1–15; 2002: 369).

If we compare the greyware pottery of the Cherniakhiv culture with the Dacian dishes and the Red Slip Ware imported ones, then it occupies more than 80% of the dishes of Late Antique Tyras.

GLASSWARE

Drinking glasses fragments with drops of blue glass in them are a reliable chronological indicator of the infrequent glassware items (Fig. 8:1). The study of similar vessels

⁵ The images of some vessels (Fig. 6:11–16, 22; Fig. 7:6) are published for the first time.

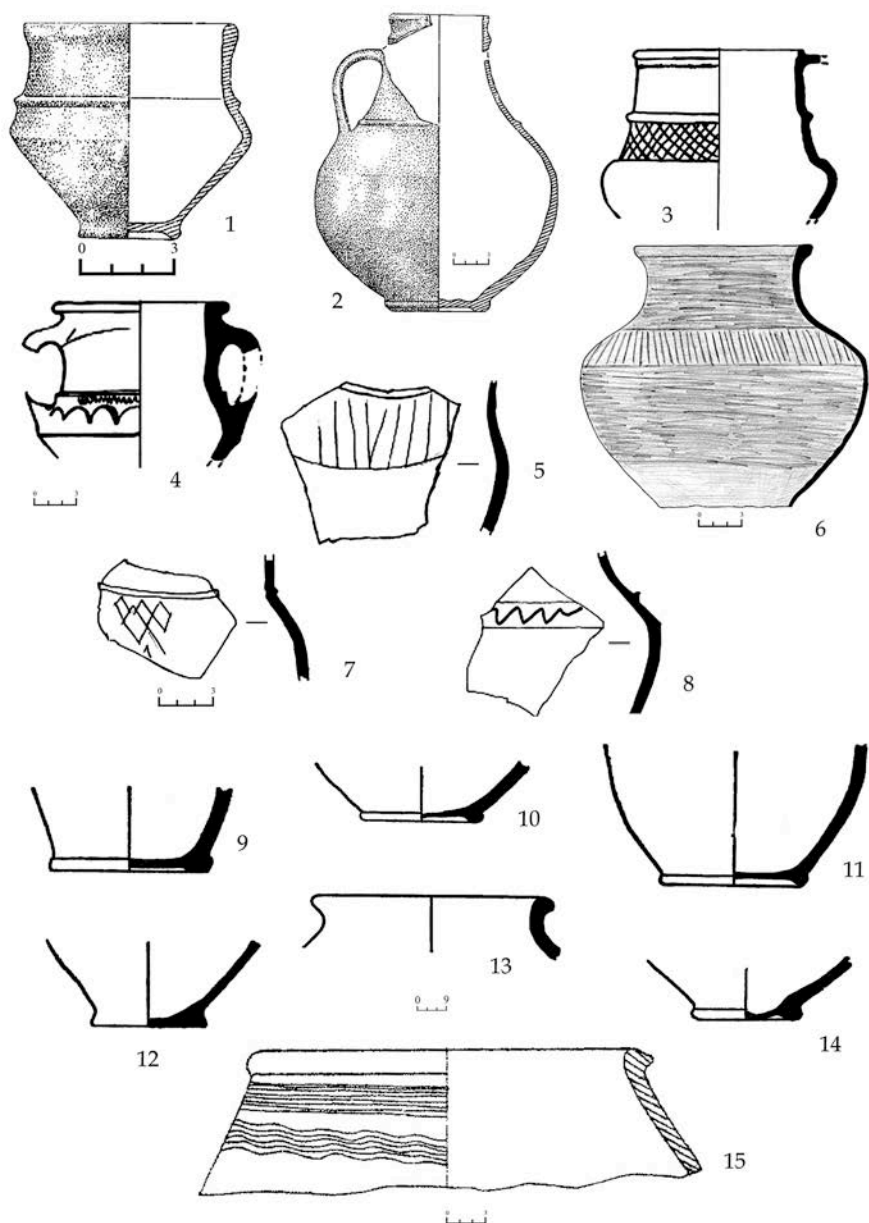


Fig. 7. Greyware tableware and household ceramics. 1–2 after Kravchenko and Korpusova 1975; 3–5, 7–8 after Samoylova and Ostapenko 2009; 6 – drawing by O. Saveliev; 9–14 after Gudkova 1979; 15 after Gudkova and Krapivina 1990.

from the Bosphorus necropolis showed that the earliest of them date from the second half of the 4th – the beginning of the 5th century AD (Zasetskaya 2008: 24). The glassware was probably made in the workshops of the Middle East (Sazanov 1995: 333). I. Gavritukhin believes that Eastern European vessels with drops of blue glass cannot be dated earlier than the last decades of the 4th century AD (Gavritukhin 2007: 12).

RED SLIP WARE (LATE ROMAN C / PHOCAEAN RED SLIP WARE)

This includes plates that are close to some forms of the late Chandarli group (Fig. 8:2; late 4th–5th centuries AD; Hayes 1972: fig. 65:2). Phocaean Red Slip Ware ceramics are represented by one fragment of the bottom of a bowl (Fig. 8:3). According to John Hayes, the double-volute mark on the bottom of the bowl can probably be attributed to motif 19, AD 440–490 (Hayes 1972: 353–355, fig. 73:y–z, aa). As can be seen, dishes from this group are extremely rare. At the same time, in the same Olbia, in addition to the Phocaean sigillata, Pontic Red Slip Ware and African Red Slip Ware are well represented (Krapivina and Domžalski 2008). The only unpublished fragment of a large PRS dish is mentioned by K. Domžalski. He classified it as Form 1 of his classification. The researcher identified options 1A, 1B and transitional 1A/1B. Option 1A is typical for the barbarian burial grounds of Southwestern Crimea, is known in the Cherniakhiv burial ground Bilen'ke near Tyras, and also dominates among the finds of Olbia at the turn of the 4th and 5th centuries AD (Domžalski 2021: 58, 62). It must be assumed that the copy from Tyras refers specifically to this variant.

HATCHET PENDANTS

Bronze axe-shaped pendants belong to the barbarian items (Fig. 8:4). Sometimes, in the literature, they are called “Thor’s hammers”. Those mostly were found in Central Europe. The appearance of such amulets in the Northern Black Sea region is sometimes associated with the advance of the Goths. Among the Germanic tribes of Central Europe, axe-shaped pendants of this type spread in the period C2 (AD 230/250 to the beginning of the 4th century AD). A significant part of the dated assemblages comprising similar pendants in the territories where the German cultures were spread date back to that time.

Another pendant (Fig. 8:5) belongs to a variation of the same type (type 5 according to Andrzej Kokowski 1998: 100–102, fig. 5). It is probably related to the same cultural tradition.

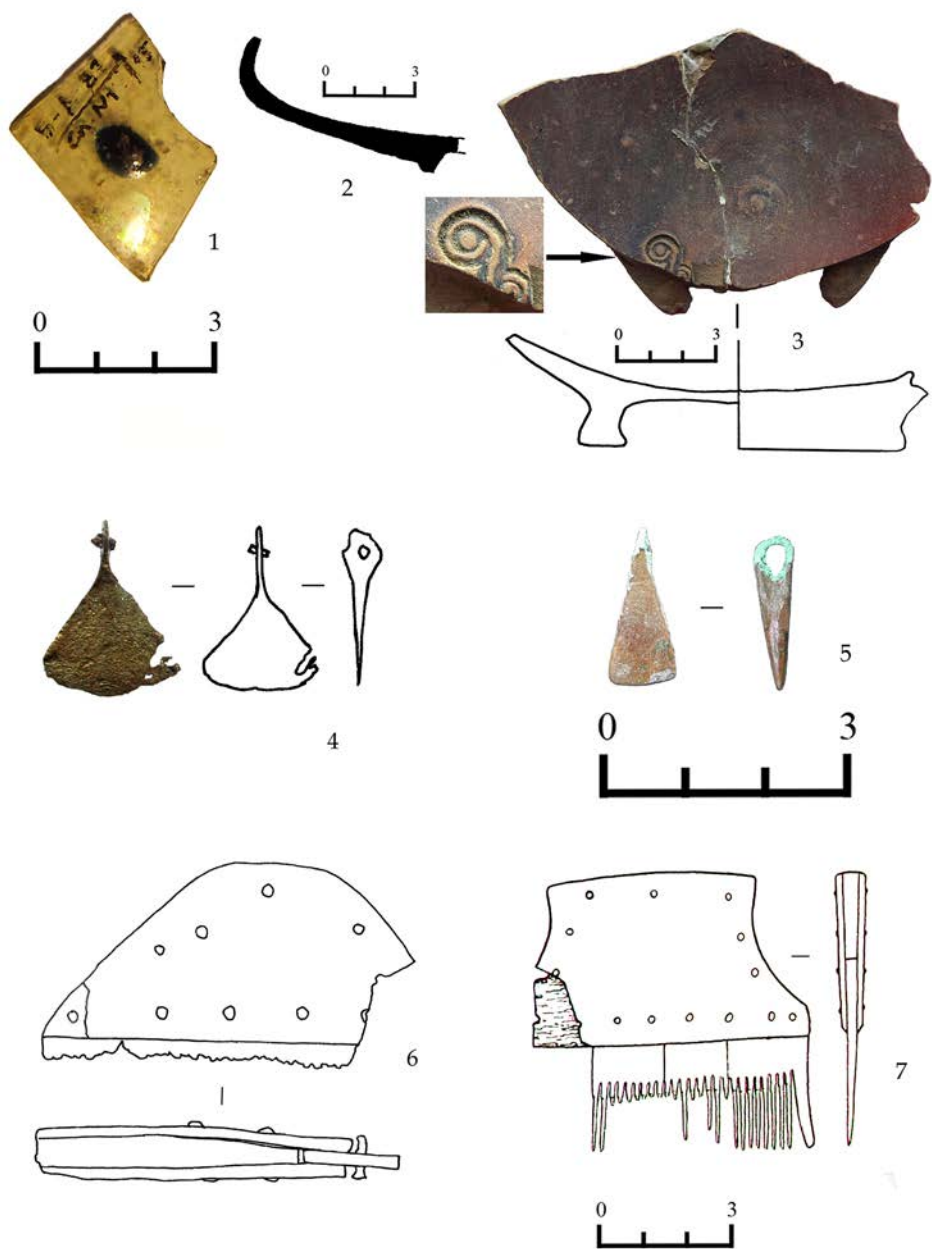


Fig. 8. Glass, ceramic, metal and bone objects. 1–6 – photos and drawings by O. Saveliev; 7 after Son 2011.

BONE COMBS

Three-layered Cherniakhiv combs are an introduced element associated with the advance of barbarian tribes into this territory. Several three-part combs originate from Tyras. One has a semicircular back (Fig. 8:6). This Type 1, according to the classification of Sigrid Thomas (Thomas 1960: 77–94), appears in the Cherniakhiv culture in its early stages and continues to exist until the final stage. Based on the proportions, this specimen can be dated to the second half of the 3rd century – to the beginning of the 4th century AD (Shyshkin 2002: 244). The second comb is one-sided, three-part, has a trapezoidal back (Fig. 8:7; Son 2011: 300, fig. 4:4). Most of these combs come from the assemblages of the Cherniakhiv culture of the 4th century AD (e.g., Nikitina 1969: 155).

COINS

Despite the severe economic crisis in the Roman Empire in the 3rd century AD, the flow of Roman coins to Tyras did not stop. This period is represented by the coins of Gordian III, Philip the Arab, and Gallienus. The beginning of the way out of the crisis is associated with the name of Aurelian. The discovery of the second coin of this emperor in the settlement once again confirms the assumption that after the city was destroyed by barbarians in the late 260s, life in Tyras was restored already in the 270 – early 280. Various coin finds can also be associated with the Gothic campaigns, for example, the pierced antoninians of the Emperor Philip the Elder (AD 244–249). It was previously believed that the coin of the Emperor Valentinian (AD 364–375) was the latest among those found in Tyras (Karyshkovskiy and Kleyman 1985: 139).⁶ In 2020, a coin of Emperor Theodosius I (AD 379–395) was found.⁷ And even earlier, a coin of Emperor Arcadius (AD 395–408) was also discovered (Bulatovich and Nosova 2010: 153).

There is a lack from the site of obvious examples of belt buckles, spindle whorls, and some types of jewellery that can be considered as characteristic of the Cherniakhiv culture. Considering the lack of discreteness in dating things from the second half of the 3rd – early 5th century AD, it can be assumed that the barbarians lived here permanently.

⁶ We are not sure that absolutely all coin finds of the second half of the 3rd – early 5th centuries are associated with barbarians.

⁷ Being prepared for publication.

CONCLUSIONS

Based on the available archaeological data, two phases can be tentatively distinguished in the history of the city in Late Antiquity.

The second half of 3rd – the third quarter of 4th century AD

This period can be called “Gothic”. This time is characterized by the decline of the economy, reduction of the urban area, decrease in imports and naturalization of the economy. In the 4th century AD, tribes of the Cherniakhiv culture densely populate the Northwestern Black Sea region. Apparently, some of the barbarians settled in the city. The barbarians who lived in Tyras and its environs received goods in amphorae and imported ceramics. Barbarian traits noticeably appear in the material culture of Tyras. In addition to amphoras from Asia Minor, the Bosporus, the Danube and the Middle East,⁸ Tyras received lamps (particularly ribbed), a few Red Slip Ware vessels, some types of late Roman coins, ceramic dishes, bone and metal products associated with the Cherniakhiv culture and fibulae of the Late Roman types.

After the Hunnic invasion, the surviving population of Tîre was the same. Thus, we can limit its history to the former stage, only extending its date to the beginning of the 5th century AD. However, if we consider the Hunnic invasion as an epoch-making historical event for the entire Northern Black Sea region, then we will have to admit that it became a new historical frontier for it, including for Tyras. Here, such boundaries were military-political events: the end of the 1st century BC – invasion of the Getae Burebista and the beginning of Roman influence; the middle 3rd century AD – barbarian invasions. Therefore, we are inclined to believe that in the last quarter of the 4th century, a short-term “post-gothic” or “Hunnic” period began for Tyras.⁹

The last quarter of 4th – beginning of 5th AD

It is not known how the relations developed between the population that remained in the city and the Huns. Taking into account the finds of coins, amphorae and other materials, it can be argued that life in Tyras continued even at the beginning of the 5th century AD. There are very few finds from this time and this is objective. First of all, these are coins of the late Roman emperors. If we start from broad dating and take a late date, then some of them (Arcadius) go back to the 5th century AD. Starting from the upper chronological boundary of the Cherniakhiv-Sântana de Mureş culture (beginning of the 5th century AD), the existence of ceramic vessels from this culture

8 Considering the chronology of amphoras of the Gaza type, they could have been used in the next period.

9 Considering the traces of fire in the “post-gothic house”, it is possible that these are the consequences of a military conflict.

should be extended to this period. A fragment of a glass vessel with a drop of blue glass and some lamps also date back to this time.

The population was small. The period of its residence was short-lived. No constructions of that time are known.¹⁰ It is difficult to make judgement on the craft and economy. The population that lived there was not numerous and soon dissolved in the beginning of the turbulent epoch of the Migration period.

REFERENCES

- Abramov, A. P. 1993. Antichnyye amfory. Periodizatsiya i khronologiya. *Bosporskiy sbornik* 3: 4–135.
- Almgren, O. 1923. *Studien über nordeuropäische Fibelformen der ersten nachchristlichen Jahrhunderte mit Berücksichtigung der provinzialrömischen und südrussischen Formen*. Leipzig. Mannus Bibliothek 32.
- Ambroz, A. K. 1966. *Fibuly yuga Yevropeyskoy chasti SSSR II v. do n.e.–IV v. n.e.* Moskva. Svod arkeologicheskikh istochnikov. Vypusk D1–30. *Ammianus Marcelinnus. Res Gestae*.
- Yashnaya, O. S. 2015. Amfory tipa Delakeu iz raskopok Mangupa. *Problemy istorii, filologii, kul'tury* 3: 120–139.
- Bădescu, A. 2013. Amfore orientale de tip Kapitän II descoperite la Histria în Sectorul Basilica extra muros. *Materiale și cercetări arheologice. Serie Nouă* IX: 189–198.
- Bjelajac, L. 1996. *Amfore gornjo mezijskog Podunavlja*. Beograd.
- Budanova, V. P. 2001. *Goty v epokhu Velikogo pereseleniya narodov*. Saint Petersburg.
- Bulatovich, S. A. and Nosova, L. V. 2010. Monetnyye nakhodki v Tire (1996—2001 gg.). In S. D. Kryzhytskyi (ed.), *Tira — Belgorod — Akkerman*, 147–173. Odesa.
- Didenko, S. V. 2014. Khronologiya svetloglinyanykh uzkororlykh amfor tipov Shelov D i F (po materialam pogrebal'nykh kompleksov). *OIUM* 4: 34–48.
- Didenko, S. V. 2016. Amfory tipa Forlimpopoli v Severnom Prichernomor'e. *Eminak* 4(16): 242–250.
- Didenko, S. V. 2018. *Antychnyi keramichnyi import u Cherniakhivskii Kulturi na terytorii Ukrainy*. Unpublished PhD thesis, Institute of Archaeology of National Academy of Sciences of Ukraine. https://shron1.chtyvo.org.ua/Didenko_Serhii/Antychnyi_keramichnyi_import_u_Cherniakhivskii_kulturi_na_terytorii_Ukrainy.pdf. Last access: 5.06.2024.
- Domžalski, K. 2021. *Pontic Red Slip Ware: Typology, Chronology and Distribution of a Major Group of Late Roman Fine Pottery in the Black Sea Region*. Warsaw.
- Fedoseyeva, T. M. 2010. Svetil'niki iz raskopok Tiry v 2002 g. In S. D. Kryzhytskyi (ed.), *Tira — Belgorod — Akkerman*, 144–146. Odesa.
- Furmanskaya [Furmanska], A. I. 1958. *Otchet o rabote Belgorod-Dnestrovskoy ekspeditsii 1958 goda*. Kyiv.
- Gavritukhin, I. O. 2007. Final chernyakhovskoy kul'tury. Vostochnaya Yevropa v seredine I tysyacheletiya n. e. *Rannoslavianskiy mir* 9: 9–24.
- Gorokhovskiy [Gorokhovskiy], E. L. and Gopkalo, O. V. 2004. Fibuly VII gruppy O. Al'mgrena v areale chernyakhovskoy kul'tury. In D. N. Kozak (ed.), *Arkheologiya davnikh slovyan*, 103–130. Kyiv.
- Gorokhovskiy [Gorokhovskiy], E. L. and Son, N. O. 1989. Fibuly z Tiry. *Arkheolohiia* 3: 69–78.
- Gudkova, A. V. 1979. Klassifikatsiya seroglinyanoy stolovoy keramiki Tiry II–IV vv. n.e. In P. O. Karyshkovskiy (ed.), *Antichnaya Tira i srednevekovyy Belgorod*, 99–115. Kyiv.

¹⁰ At least for now. We should also not forget that the topmost Late Antique layer was destroyed in many places during the construction of the medieval Akkerman fortress.

- Gudkova, A. V. 1999. *I–IV vv. v Severo-Zapadnom Prichernomor'ie (kul'tura osedlogo naseleniya)*. Sankt Petersburg – Kishinev – Odesa. Stratum plus 4.
- Gudkova, A. V. 2002. K izucheniyu zernovikov chernyakhovskoy kul'tury. In E. V. Yarovoy (ed.), *Drevneyshiye obshchnosti zemledel'tsev i skotovodov Severnogo Prichernomor'ya (V tys. do n.e. – V vek n.e.)*, 362–370. Tiraspol.
- Gudkova, A. V. and Krapivina, V. V. 1990. *Seroglinyanaya keramika Tiry, Ol'vii i pamyatnikov chernyakhovskoy kul'tury*. Kyiv.
- Gudkova, A. A., Rosokhatskiy, A. A. and Fokeyev, M. M. 1997. Raboty na mogil'nikе chernyakhovskoy kul'tury Nagornoe II v 1993 g. *Arkheologichni doslidzhennya v Ukrayini v 1993 r.*: 42–43.
- Hayes, J. W. 1972. *Late Roman Pottery*. London.
- Hayes, J. W. 1983. The Villa Dionysos Excavations, Knossos: The Pottery. *Annual of the British School at Athens* 78: 97–169.
- Ivanova, O. S. 2011. Uzkogorlye svetoglinyanye amfory iz raskopok Mangupa. *Materialy po arkheologii, istorii i etnografii Tavrii* XVII: 266–327.
- Karyshkovskiy, P. O. and Kleyman, I. B. 1985. *Drevniy gorod Tira*. Kyiv.
- Kassab Tezgör, D. 2010. Typologie des amphores sinopéennes entre les II^e–III^e s. et le VI^e s. ap. J.-C. *Varia Anatolica* XXII: 121–140.
- Keller, E. 1971. Die spätrömischen Grabfunde in Südbayern. *Münchener Beitrag zur Vor- und Frühgeschichte* 14. München.
- Kleyman, I. B. 1976. K stratigrafii naplastovaniy rimskogo vremeni v Tire. *Materialy po arkheologii Severnogo Prichernomor'ya* 8: 109–119.
- Kleyman, I. B. 1979. Stratigrafiya kul'turnogo sloya gorodishcha Tiry – Belgoroda. In P. O. Karyshkovskiy (ed.), *Antichnaya Tira i srednevekovyy Belgorod*, 54–75. Kyiv.
- Kokowski, A. 1998. Metalowe wisioriki w kształcie topora na terenie Barbaricum na północ i północny-wschód od limesu rzymskiego, w okresie rzymskim i we wczesnym okresie wędrówek ludów. In J. Ilkjaer and A. Kokowski (eds), *20 lat archeologii w Masłomęczu, T. I*, 99–116. Lublin.
- Krapivina, V. V. 1991. O dvukh „gotskikh” razgromakh Ol'vii. In A. G. Zaginaylo (ed.), *Drevneye Prichernomor'ye*, 47–49. Odesa.
- Krapivina, V. V. 1993. *Ol'viya. Material'naya kul'tura I–IV vv. n.e.* Kyiv.
- Krapivina, V. V. 2009a. Amphorae of the 3rd–4th centuries A. D. in Olbia Pontica. In D. Kassab Tezgör and N. Inaishvili (eds), *PATABS I. Production and Trade of Amphorae in the Black Sea*, 69–73. Istanbul.
- Krapivina, V. V. 2009b. Tira, Ol'viya i varvary v III v. n.e. In V. P. Kopylov (ed.), *Mezhdunarodnyye otnosheniya v bassejne Chernogo morya v skifo-antichnoye i khazarskoye vremya*, 196–205. Rostov-na-Donu.
- Krapivina, V. V. 2011. Tira, Ol'viya i chernyakhovska kul'tura. In K. Myzgin (ed.), *Ostroghotica, I*, 49–51. Kharkiv.
- Krapivina, V. V. 2013a. O torgovle Ol'vii v pervyye veka n.e. (po dannym amfornoy tary). In V. Yu. Zuev (ed.), *Bosporskiy Fenomen: Greki i varvary na yevraziyskom perekrestke*, 640–644. Saint Petersburg.
- Krapivina, V. V. 2013b. Pozdneantichnyy period istorii Ol'vii Pontiyskoy. *Vestnik drevney istorii* 1: 77–94.
- Krapivina V. V., Domžalski, K. 2008. Pozdneantichnaya Ol'viya v svete nakhodok krasnolakovoy keramiki. In V. Yu. Zuev (ed.), *Bospor i Severnoye Prichernomor'ye v antichnuyu epokhu. Materialy yubileynogo kruglogo stola posvyashchennogo 10-letiyu konferentsii „Bosporskiy Fenomen”*, 73–81. Saint Petersburg.
- Kravchenko, N. M. and Korpusova, V. M. 1975. Deiaki rysy materialnoi kul'tury piznorymskoi Tiry. *Arkheolohiia* 18: 20–42.

- Kuzmanov, G. 1992. *Antichni lampi. Kolektsiya na Natsionalniya arheologicheski muzey*. Sofiya.
- Kuzmanov, G. and Minchev, A. 2018. *Antichni lampi. Kolektsia Regionalen istoricheski muzey Varna (Izvestia na Natsionalnia arheologicheska institut, tom 45)*. Sofiya.
- Magomedov, B. V. 2001. *Chernyakhovskaya kul'tura. Problema etnosa*. Lublin.
- Magomedov, B. V. 2006. Rimskie amfory v chernyakhovskoy kul'ture. In R. V. Terpilovskiy (ed.), *Goty i Rim*, 52–59. Kyiv.
- Magomedov, B. V. 2007. Olviia i varvary v piznoantychnyi period. *Arkheolohiia* 4: 47–53.
- Magomedov, B. V. 2009. Ol'viia i varvarskiy mir v III – nachale V vv. n.e. In S. D. Kryzhytskyi (ed.), *Ol'viyskie drevnosti: sbornik nauchnykh trudov pamyati V.M. Otreshko (1940-1999)*, 271–280. Kyiv.
- Magomedov, B. V. 2011. Ob amforakh tipa «Delakeu». In O. V. Sharov (ed.), *Peterburgskiy apokrif. Poslanie ot Marka*, 367–372. Kishinev.
- Majcherek, G. 1995. Gazan Amphorae: Typology Reconsidered. In H. Meyza and J. Młynarczyk (eds), *Hellenistic and Roman Pottery in the Eastern Mediterranean: Advances in Scientific Studies*, 163–178. Warsaw.
- Nekrasova, A. N. 2006. Pamyatniki chernyakhovskoy kul'tury Dneprovskogo Levoberezh'ya. In R. V. Terpilovskiy (ed.), *Goty i Rim*, 87–200. Kyiv.
- Nicorescu, P. 1933. Fouilles de Tyras. *Dacia* III–IV: 557–601.
- Nikitina, G. F. 1969. Grebni chernyakhovskoy kul'tury. *Sovetskaya arkheologiya* 1: 147–159.
- Opaiț, A. 2004. *Local and Imported Ceramics in the Roman Province of Scythia (4th–6th centuries AD)*. Oxford.
- Opaiț, A. 2010. Sinopean, Heraklean and Chersonesan «Carrot» Amphorae. *Ancient Civilizations from Scythia to Siberia* 16: 371–401, 552–556.
- Paczyńska, K. and Naumenko, S. A. 2004. Forlimpopoli Amphorae at Tanais in the Second and Third Centuries AD. In J. Eiring and J. Lund (eds), *Transport Amphorae and Trade in the Eastern Mediterranean*, 309–312. Aarhus.
- Paraschiv, D. 2002. Amfore pontice romane și romane-bizantine în zona Dunării de Jos. *Arheologia Moldovei* XXV: 165–207.
- Pavlenko, YU. V. and Son, N. O. 1991. Piznoantychna Tira ta rannoderzhavne obiednannia vizihotiv. *Arkheolohiia* 2: 6–16.
- Petcović, S. 2010. *Rimske fibule u Srbiji od I do V veka n.e.* Beograd.
- Petrauskas, A. V. and Petrauskas, O. V. 2008. Pro deiaki osoblyvosti tekhnologii ta khronologii goncharykh gorshchykh cherniakhivskykh pamiatok Postuhniannia. *Arkheologichni studii* 3: 53–97.
- Petrauskas, O. V. 2010. Fibuly «voinskogo typu» Cherniakhivskoi kultury (za materialamy pamiatok Ukrainy). *Arkheolohiia i davnia istorii Ukrainy* 2: 191–207.
- Pröttel, P. M. 1991. Zur Chronologie der Zwiebelknopffibel. *Jahrbuch des Römisch-Germanischen Zentralmuseum Mainz* 35(1): 347–372.
- Quast, D. 2015. Zwiebelknopffibeln im Barbaricum nördlich der mittleren und unteren Donau. In T. Vida (ed.), *Romania Gothica II. The Frontier World. Romans, Barbarians, and Military Culture*, 305–328, Budapest.
- Quiroga, J. and Tejera, A. 2017. *In tempore sueborum. El tiempo de los suebos en la gallaecia (411–585)*. Ourense.
- Rikman E. A. 1972. Vopros datirovki importnykh veshchey v pamyatnikakh plemen chernyakhovskoy kul'tury Dnestrovsko-Prutskogo mezhdurech'ya. *Sovetskaya arkheologiya* 4: 84–101.
- Robinson, H. 1959. Pottery of the Roman Period. *Athenian Agora V*. New Jersey.
- Rosokhatskiy, A., Yariomenko, A., Kozkhokaru, V. and Oprish, I. 1996. *Otchet o rabote Belgorod-Tirskoy ekspeditsii Instituta arkheologii NAN Ukrainy pri uchastii Instituta Frakologii Rumynii v 1996 g.* Naukovyi arkhiv Instytutu arkheolohii NAN Ukrainy. Kyiv.

- Samoylova, T. L. 1978. Osnovnye tipy amfor I–IV vv. n.e. iz Tiry. In P. O. Karyshkovskiy (ed.), *Arkheologicheskie issledovaniya Severo-Zapadnogo Prichernomor'ya*, 254–266. Kyiv.
- Samoylova, T. L. 2008. Novye dannye o pozdneantichnoy Tire. In S. B. Okhotnikov (ed.), *Kratkie soobshcheniya odesskogo arkheologicheskogo obshchestva*, 140–143. Odesa.
- Samoylova, T. L. 2013. Tira (konets VI v. do n.e. – IV v. n.e.). In I. V. Bruyako and T. L. Samoylova (eds), *Drevnie kul'tury Severo-Zapadnogo Prichernomor'ya (k 95-letiyu Natsional'noy akademii nauk Ukrainy)*, 450–492. Odesa.
- Samoylova, T. and Ostapenko, P. 2009. Grey clay ceramics from Tyras. *Pontica* XLII: 53–65.
- Saveliev, O. K. 2013. Fibuli z Tiry (znakhidki 1996–2010 rr.). *Arkheolohiia* 2: 100–115.
- Sazanov, A. 1995. Verres a decor de pastilles bleues provenant des fouilles de la Mer Noire. Typologie et chronologie. In D. Foy (ed.), *Le verre de l'Antiquité tardive et Haut Moyen Age. Typologie – Chronologie – Diffusion*, 331–341. Guiry-en-Vexin.
- Sazanov, A. V. 2012. Khronologiya amfor mirmekiysskogo tipa (Zeest 72 – Böttger I.5) rimskogo vremeni. *Drevnosti Bospora* 16: 326–353. *Scriptores Historiae Augustae*.
- Smokotina, A. V. 2011. O khronologii amfor tipa C SNP I («Delakeu»). In V. N. Zin'ko (ed.), *Bosporskie chteniya XII*, 355–360. Kerch.
- Sharov, O.V. 2007. *Keramicheskii kompleks nekropolya Chatyr-Dag: Khronologiya kompleksov s rimskimi importami*. Saint Petersburg.
- Shelov, D. B. 1978. Uzkogorlye svetloglinyane amfory pervykh vekov nashey ery. Klassifikatsiya i khronologiya. *Kratkie soobshcheniya instituta arkheologii* 156: 16–21.
- Shyshkin, R. G. 2002. Khronologicheskie priznaki trekhstolnykh grebney chernyakhovskoy kul'tury. In S. D. Kryzhytskiy (ed.), *Suchasni problemi arkheologii*, 244–246. Kyiv.
- Shul'tse [Schulze], E. and Lyubichev, M. V. 2009. Keramika chernyakhovskoy kul'tury iz uchastka «V» poseleniya Voytenki 1 (po raskopkam 2004–2006 godov). *Drevnosti* 8: 218–236.
- Schulze, M. 1977. *Die spätkaiserzeitlichen Armbrustfibeln mit festem Nadelhalter*. Bonn.
- Scorpan, C. 1977. Contribution à la Connaissance de certains types céramiques Romano-Byzantins (IVe – VIIe siècles) dans l'espace Istro-Pontique. *Dacia* XXI: 270–297.
- Son, N.A. 1986. Iz istorii pozdneantichnoy Tiry. In V. A. Anokhin (ed.), *Antichnaya kul'tura Severnogo Prichernomor'ya v pervye veka nashey ery*, 142–153. Kyiv.
- Son, N. A. 1993. *Tira rimskogo vremeni*. Kyiv.
- Son, N. A. 2011. Kostyanye izdeliya iz Tiry. *Bosporskie issledovaniya* XXV: 298–311.
- Son, N. A. and Sorochan, S. B. 1988. Antichnye svetil'niki iz Tiry. In V. A. Anokhin (ed.), *Antichnye drevnosti Severnogo Prichernomor'ya*, 115–133. Kyiv.
- Sorochan, S. B. 1982. Pro tak zvani rubchasti svitylnyky z Khersonesa. *Arkheolohiia* 38: 43–50.
- Spănu, D., Dima, M., and Frînculeasa, A. 2016. The Mălăiești de Jos (Prahova County) silver craftsman's hoard from the end of the 3rd century AD. *Dacia N.S.* LX: 237–273.
- Șovan, O. L. 2009. *Necropola de tip Sântana de Mureș – Černjachov de la Mihălășeni (jud. Botoșani). Târgoviște*.
- Ștefan, Gh. 1941. Dinogetia I. Risultati della prima campagna di scavi (1939). *Dacia* VII–VIII: 401–425.
- Thomas, S. 1960. Studien zu den germanischen Kämmen der römischen Kaiserzeit. *Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege* 8: 54–215.
- Topoleanu, F. 2012. *Lămpile antice din colecțiile Muzeului Județean de Istorie și Arheologie Prahova – Ploiești*. Ploiești.
- Tvardetskiy [Twardecki], A., Buiskykh, A. V. and Novychenkova, M. V. 2017. Polsko-ukrainska misiia v Olvii: pershi rezultaty novoho doslidnytskoho proektu. In N. O. Gavrylyuk (ed.), *Pivnichne Prichornomoria za antychnoi doby (na poshanu S. D. Kryzhytskoho)*, 45–52. Kyiv.

- Vnukov, S. YU. 2006. *Prichernomorskiye amfory I v. do n.e. – II v. n. e. Chast II. Petrografiya, khronologiya, problemy trgovli*. Saint Petersburg.
- Zasetskaya, I. P. 2008. *Steklyannaya posuda nekropolya Bospora vtoroy poloviny IV – rubezha VI–VII vv. n.e. (iz sobraniya Gosudarstvennogo Ermitazha)*. Simferopol–Kerch.
- Zubar, V. M. and Son, N. A. 2007. *Severo-Zapadnoe Prichernomor'e v antichnuyu epokhu. Osnovnye tendentsii sotsial'no-ekonomicheskogo razvitiya*. Simferopol. Materialy po arkheologii, istorii i etnografii Tavrii. Supplementum 3.

Building Activity in Olbia in the Late Roman Time

Alla Buislykh^a

This paper is devoted to the publication of two newly excavated building structures consisting of underground and ground constructions that are attributed to the latest period of Olbia's existence. Archaeological artefacts found inside them are presented, including trading amphoras and ceramic pottery that are diagnostic for the final stage of the Cherniakhiv culture dating the last third of the 4th – the first quarter of 5th century AD. Separate attention is paid to a speculative idea about the fortified city, settled by Goths on the territory of the former Roman fortress of Olbia. The results of the recent archaeological excavations give the possibility of refuting this idea. The urban structure of the latest period, its status, and its spatial development are not yet clear and must be studied in depth.

KEY-WORDS: Olbia, late Roman period, building, dwelling, Cherniakhiv culture

The aim of this paper is to present new information about the building activity taking place in Olbia after the Roman garrison left it in the middle of the 3rd century AD. The subsequent invasion of the Goths in 269–270 AD changed the political map on the Danubian frontier of the Roman empire, and the northwestern part of the Black Sea littoral would have been fully incorporated in this process (Budanova 1990: 104–129; Shchukin 2005: 162–164, figs 53–54). Over the past few decades, researchers of Olbia have raised a number of general questions that are still under discussion. These include what kind of population occupied the former Olbian fortifications, what the political, economic, social and cultural status of this community was, and whether Olbia was still an urban structure and what it looked like. The continuous excavations at the northeastern part of the Upper Town of Olbia, conducted from the beginning of the 1980s, has produced a lot of information about the latest period of Olbia's history. In the situation when the surviving writing sources did not mention Olbia directly in the context of the military campaigns that took place from the end of the 260s to the beginning of the 270s AD (Budanova 1990: 122–125),

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and the latest necropolis of the city has not yet been found,¹ the remains of buildings together with the collections of different artefacts can help in re-examination of some actual archaeological and historical problems.

The modern interpretation of the results of the recent campaign of archaeological excavations conducted up to 2010 can be briefly summarised. In the Late Roman period, at the end of the 3rd–4th centuries AD, Olbia was a “small city in a dense barbarian environment”. To prove this, some important observations about the building activity were made. First of all, special attention was given to the planning networks. These had been changed – there was a mismatch between the layout of the city of the 2nd–3rd and that of the end of the 3rd to 4th centuries AD. Only individual elements of the former regular planning system were preserved in the southern part of the Upper Town. The site was determined to have been used intensively in the latest period; moreover, the new terraces, streets and squares with stone paving appeared because of the active building processes that took place there. The use of mortar in the building technique was stressed. The dwellings were determined to have been multi-chambered, they had one or two floors, 4–6 rooms and inner courtyards, sometimes with stone altars; the private apartments were joined with those used for the usual household and handicraft purposes. The defensive walls were demolished during the Goths invasion and were never restored. The city of Olbia possessed its *chora* of a radius 5–10 km, further it was surrounded with the settlements of Cherniakhiv culture. This general information about Olbia in the Late Roman time comes from the work of Valentina Krapivina, mainly determined on the basis of the annual excavations conducted under her supervision (sector of excavations R-25 in the southeastern part of the Upper Town, 1982–2010) and her analytical processing of the archaeological finds from Olbia (Krapivina 2014: 146–165).²

These conclusions mean that when the Roman soldiers left their garrison, Olbia became an unfortified city that preserved the previous, mainly Roman, tradition of city buildings, and, as it possible to understand, the necessary social and cultural organization, needed to support such an activity in the latest period of the complex's existence. This unfortified city occupied the southern part of the both terraces on the site of the former Roman fortress.

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- 1 A single child's burial with the deposit of Cherniakhiv-type ceramic pottery and glass cup was excavated in the northern part of the Lower Town (Leypunskaya 2006: 183–188). Two more graves of this period were excavated before 1917, but they have no modern topographic location, only the separate finds such as bronze fibulae and bone combs were noted in some specialist publications; both are mentioned by Krapivina (2014: 151).
 - 2 The ideas about the latest period of Olbia are distributed in numerous publications by Valentina Krapivina, one of the latest with the most current chronology (Krapivina and Domžalski 2008: 73–74). In order to prevent the search of a number of them, here and below I will refer the latest and the most complete publication, which appeared after the death of the author (Krapivina 2014).

To my mind, these conclusions must be re-examined because of their complete discrepancy with the real archaeological situation. The key-problem is connected with the incorrect interpretation of Olbia's historical development in the latest period. The general meaning that the building activity of this time was a successor of all (or almost all) the processes that took place in the Roman city, follows the above-mentioned problem. Moreover, the absence of the professional analysis of the excavated buildings and the necessary planning reconstructions became the reason of numerous doubts and speculations about the authenticity of the proposed conclusions. The impossibility of their verification became evident to the researchers. Without becoming acquainted with the detailed archaeological situation, it becomes impossible to create a model of the architectural and spatial development of Late Roman Olbia.

My personal many-years' experience in studying and interpretation of buildings and their constructions, obtained during Olbia's excavations, has forced me to adopt another conclusion. Taking into account that building activity really reflects the level of the development of every society, it is necessary to stress that the site was no longer subject to the planning regularity of the previous phase after the destruction of the Roman citadel in the period of the military campaign of the invading Goths. Moreover, despite Krapivina's opinion,³ the intensive development of the Upper Town and the use of the planning structures typical of the previous building period contradicts with the information about the spatial development and building activity in the Lower Town. Here the poor remains of single- or double-room houses, built without any general planning system (in a chaotic manner), were excavated (Leypunskaya 1988: 78). These contradictions and controversial points of view made me more attentive to the interpretation of the results of the newest excavations', provided in the last decade by work in the southeastern part of the former Roman citadel.⁴ Thus, the preliminary interpretation of the results of this archaeological research is given in this paper.

Some important remarks must be mentioned before starting the description and the analysis of the building activity. Since 2016, the Ukrainian and Polish international team have been conducting a joint scientific project in Olbia.⁵ One

3 The first reconstructions of the lay-out, houses and official buildings on the territory of the Roman citadel, connected with civil population, soldiers and officers of the Roman garrison, has already been proposed: Buyskikh and Novichenkova 2021: 50–58, fig. 3.

4 The continuous excavations in sector R-25 under Alla Buiskykh's supervision has taken place after 2010. The doubts about Krapivina's ideas about the preservation of the previous building traditions in Late-Roman times were expressed by Boris Magomedov but without any detailed proof because of the unavailability of published archeological evidence (Magomedov 2007: 51).

5 The joint project between Institute of Archaeology, National Academy of Sciences of Ukraine (Alla Buiskykh) and the National Museum at Warsaw, since 2019 – the Institute of Archaeology and Ethnology, Polish Academy of Sciences (Alfred Twardecki).



Fig. 1. Sector of excavations (R-25) in the southeastern part of the Roman citadel at Olbia.
Aerial photos: S. Lenarczyk, the National Museum at Warsaw.

of the main directions of this project is to conduct complex research in the territory of the Roman citadel. During four field seasons, there were excavated the remains of a multifunctional building complex that appeared here after the invasion of the Goths and which was connected with the Cherniakhiv cultural circle.⁶ Thus, the comprehensive studying of the latest Olbian chronological period became the first task. One of the most important results of this project's activity is the new chronological frames of this period from the 4th up to the beginning of the 5th century AD.⁷ The new approach to the late Roman period in Olbia together with the reexamined chronology that are used below, prompted me to propose a new look on the building processes that took place on the site of the former Roman citadel.

The excavations conducted in the southeastern part of the Roman citadel (Fig. 1) by the Olbian expedition of the Institute of Archaeology, National Academy of Ukraine for the last decade, have brought to the light a lot of fresh information about the inner organization of the everyday life of the community that occupied the territory of the former Roman fortress. It became clear that we are dealing with a totally new

⁶ See the contribution by A. Twardecki in this volume.

⁷ The first publications of the project's results (Twardecki *et al.*, 2016: 45–52; Twardecki and Buyskikh 2021: 251–273). See also the papers, devoted to the publication of the different finds according to the project, in this volume.



Fig. 2. The excavated area: 1. Building complex No 1912; 2. Building complex No 1911 and 1917; 3. Remains of stone pavement of the Roman *principia* courtyard. Aerial photos by S. Lenarczyk, the National Museum at Warsaw.

spatial organization of the living space. The regular street-net of the previous time was no longer in use with the exception, perhaps, of the main longitudinal street. It was the main communicative artery, that was organized on the ridge of the Upper Town plateau and divided it into two almost equal parts. But this street had the main infrastructural functions in the street network when the whole city-building complex had been in use. At a time of the city's total destruction, to my mind, there is no chance to suppose that only one street had to be preserved and had to have its initial function. The topographic peculiarity with central higher plateau, descending smoothly to the east and to the west, was preserved up to modern times.⁸ All the masonry of the Roman garrison's buildings was destroyed and demolished; none of it survived after the total destruction. Later the stones were taken away for use in new buildings. Thus, the Roman buildings were not reused in the latest period as it had previously been supposed. All the multi-chambered dwellings with inner courtyards, built for the needs of the Roman garrison and civil population, ceased to exist.

⁸ It was not by chance that the military trenches, dug here in 1941–1943, were made along this watershed also.



Fig. 3. Plan of the excavated area showing the extent of buildings 1912 and 1911/1917.

Graphic design: A. Buiskikh.

The archaeological excavations, held on the Upper Terrace, demonstrate that the stone pavement of the courtyard inside the monumental building that was attributed as the garrison's *principia* (Buiskikh and Novichenkova 2021: 17–18, figs 3; 12,1–2), was almost fully demolished (Figs 2 and 3). But new constructions appeared exactly on the site of the destroyed pavement. They belonged to the two main types – ground-level and underground buildings and they were connected with everyday life and household activity.

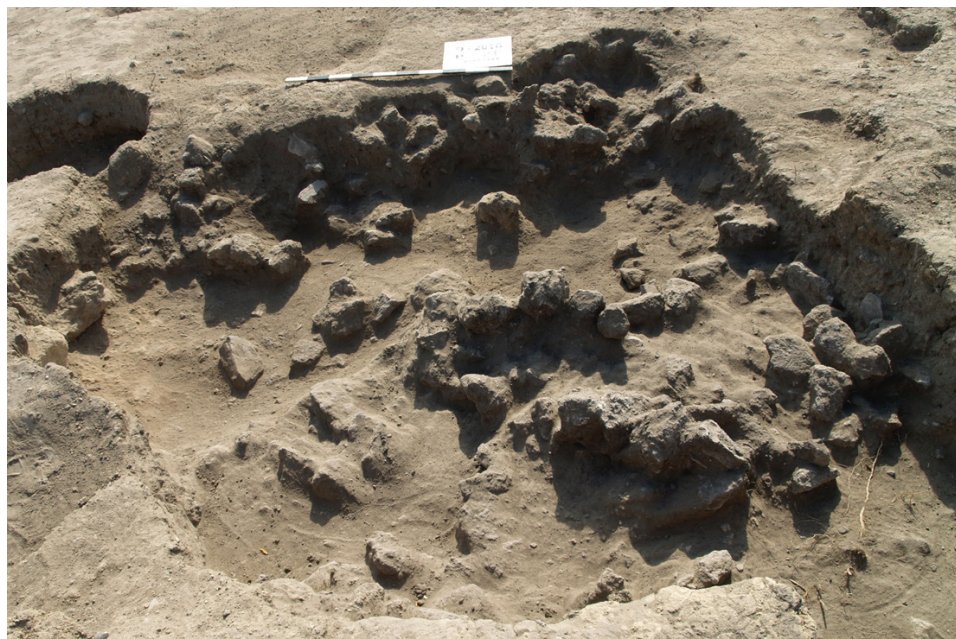


Fig. 4. Building complex No 1912. The beginning of the excavations. Photo: A. Buislykh.

The building complex labelled No 1912 was partly excavated in 2017. It was preserved at the level of the fully underground structure (Figs 2:1; 3). The square plan of this structure was visible from the beginning of the excavations; its upper level was filled with small rubble stones, the soil filling consisted of a large quantity of ash (Fig. 4). From the depth, about 0.5 m to more than 1 m, it became possible to retrieve the remains of the destroyed ceiling. This could have been from under a first floor above the structure, or it could have been from the roof of a structure that had only the underground level (Fig. 5). It was burnt by a severe fire, the remains of some burnt wooden beams (Fig. 6:1) and nearly 30 broken pieces of clay constructional elements with impressions of wattles (Fig. 6:2) were found. Their location seems to suggest that they were the remains of the roof over the underground construction. The walls were cut in a solid yellowish clay mass, the building had a square plan. The dimensions on the upper level are 2.5×2.7 m, and at the floor level 2.4×2.4 m, the area is less than 6 m^2 , the depth is 1.5–1.6 m. The floor was paved with numerous small rubble stones, densely lying in pure yellow clay (Fig. 7). Along the eastern and southern walls of the pit were found the remains of two stone-built walls – preserved to the height of one-three rows, their inner faces were covered with a plastering of white lime mortar (Fig. 8:1–2).



Fig. 5. Building complex No 1912 in the process of excavation.
Researchers S. Didenko (left) and R. Kozlenko (right). Photo: A. Buiskykh.

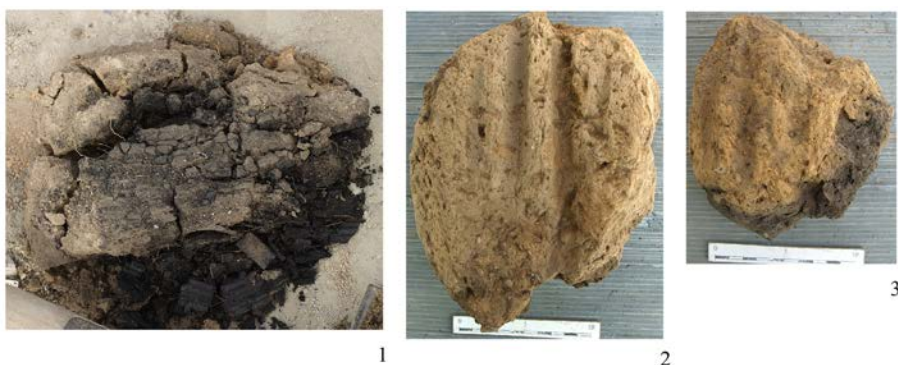


Fig. 6. 1. Burnt wooden beam; 2. Remains of clay constructions with impressions of wattles.
Photos: A. Buiskykh.

The excavation of this construction was continued in 2019. Two stone walls were found on the west and the south edges of the clay-dug pit (Fig. 9). Both walls look unusual if compared with the normal walls of the stone cellars, typical for Olbian house-building in Hellenistic and the Roman times. To my mind, these walls were erected as supporting walls for protection of the clay walls of the underground



Fig. 7. Building complex No 1912. The rubble stones of the floor. Photo: A. Buiskykh.



1



2

Fig. 8. Building complex No 1912. 1. Stone constructions on eastern and southern sides;
2. Lime plastering on the surface of the southern wall. Photos: A. Buiskykh.



Fig. 9. Building complex No 1912 with remains of two walls beside the pit. Photo: A. Buiskykh.

constructions dug in soft soil with copious ash. Afterwards, the dense yellow clay was used as facing material inside it.

Besides two supporting walls, the entrance to the underground structure was found. It was in the northwestern corner of the underground construction and consisted of an outward-facing ramp coming from the north. It had a curved plan, turned to the east, and had a ramp descent from the ground level of that time. This ramp was paved with a dense layer of yellow clay. The bottom of the curved entrance was paved with the same small rubble stones; its overall length is nearly 5 m along the eastern side and 6 m along the western side, the width is 0.7–0.95 m (Fig. 10). The presence of the external entrance suggests the idea that the discussed building complex was fully buried in the ground and had no ground floor.

Another building complex was excavated in 2016, but the idea about its attribution appeared later, after the excavation of building complex No 1912. It had a complicated plan and comprised two parts: an underground part (labelled No 1911 during the excavation) and an above-ground part (No 1917). It was situated about 2 m to the southeast of the underground complex No 1912 (Fig. 2:2; 3). Its eastern part was destroyed by a terrace slope, the complete dimensions are unknown. The preserved part of the whole above ground construction has a rectangular plan, elongated from west to east and is about 6 m across, the inner part is less than 5 m



Fig. 10. Building complex No 1912. Entrance to the underground feature from the northwest.
Photo: A. Buiskykh.



Fig. 11. Building complex with the above-ground structure No 1917 from the southeast.
Photo: A. Buiskykh.

across. The southern wall, erected from small rubble stones and reused stones, is partly preserved, its length is 2 m, width 0.4 m. The entrance, perhaps, was from the west, there were used some preserved flat stones from the pavement of the Roman *principia* (Fig. 11). The preserved part of the inner space is paved with the same rubble stones, mainly small, combined with flat pieces of tile. A lot of the stones in the wall and floor show traces of fire.

The underground part of the construction was located to the north of the ground-level building, it had an almost square plan and dimensions about 2×2 m, a square floor area of 4 m^2 , the depth is little more than 1 m. The floor is levelled, it is made from clay, covered with ash. At the bottom of the northern wall, there were two rectangular stones (Fig. 12).

Both structures with underground elements and stone constructions inside were found in Olbia for the first time. In such a case, their interpretation can only be preliminary, the present conclusions may be corrected in the light of evidence from further archaeological excavations. The small dimensions of both together with the outward ramp entrance of one of them allows their interpretation as relating to



Fig. 12. Building complex with the underground structure No 1911 from the south.
Photo: A. Buiskykh.

a household usage of this underground construction. Perhaps these constructions served as cellars for the preservation of some form of products.

Archaeological material from the ceramic deposits that were found in both underground buildings, are diagnostic, they are typical for contemporary settlements of the Cherniakhiv culture in the northwestern Black Sea littoral region. Moreover, similar ceramic materials are known in Olbia from previous excavations (Magomedov 2007: 49–50; 2020: 221–223, fig. 2). They are: amphoras (Fig. 13:1) of Shelov type F, F2/F3 after Sergii Didenko (Shelov 1978: 19; Didenko 2018: 31–85) dating from the 350s to the 370s AD, and Shelov type E (Fig. 14) dating to the last quarter of the 4th to the first half of the 5th century AD; Delakeu / Zeest 100 type (Zeest 1960: tabl. XXXIX; Magomedov and Didenko 2011: 480–483); Red Slip Wares, first of all, the deep dishes, form 1A, of Pontic Red Slip Ware after Krzysztof Domžalski (Fig. 15: 1–5) dating from the second half of the 4th up to the mid-5th century AD (Olbia: Krapivina and Domžalski 2008: 78 ff., Fig. 1:1–2; compare with Tanais: Arsen'yeva and Domžalski 2002: 422 ff., cat. 1–184). Greyware table pottery is represented by open and closed forms with the specific turned ornament (Fig. 13:2–6) usual



Fig. 13. Diagnostic finds from underground structure No 1911: 1. Amphora of Shelov type F; 2–6. Greyware table ceramic; 7. Kitchen ware; 8. Loom-weight; 9–11. Cut amphoras bodies; 12. Bronze coiled wire; 13. Bone or antler three-layers comb. Drawings: E. Piatakova, Institute of Archaeology, NAS of Ukraine. Photos: A. Buiskykh.

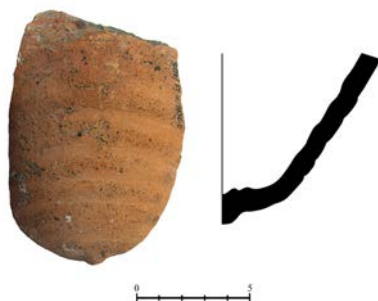


Fig. 14. Diagnostic finds from underground structure No 1912: amphora of Shelov type E. Drawings: E. Piatakova, Institute of Archaeology, NAS of Ukraine. Photos: A. Buiskykh.

in the settlements of the nearest Olbian territory (Schultze *et al.*, 2006: 300 ff.). Kitchen wares (Fig. 13:7; 15:6) add to this information (Magomedov 1987: fig. 16).

A ceramic lamp of Sunburst group with a stylized rosette on its base (Fig. 15:7) was found in the building No 1912. Sunburst lamps are widely known in the Northern Black Sea cities; their date is in the frame of the 3–4 centuries AD; the Olbian lamp belongs to the early Sorochan type II with transition from round to ovoid body (Sorochan 1982: 44–45, fig. 1; Chrzanovski and Zhuravlev 1998: cat. No 77–78). The same type of lamp was found in a grave of the Cherniakhiv settlement of Kamianka-Anchekrak to the northwest of Olbia (Magomedov 1987: 84, fig. 38, 4). There were found also a loom-weight of cylindrical shape with central rib (Fig. 13:8), like those that are known in Cherniakhiv settlements, type A122 after Magomedov (2015:19), and more than a dozen examples of a specific group of artefacts, widely known in the latest strata in Olbia – mainly the pieces of amphora bodies and other wares, that were roughly cut into discs (Figs 13:9–11; 15:8–15). Perhaps they had a role of gaming pieces in a game like the Roman *calculi*. Metal items are represented with an iron butt-spike with remains of a wooden shaft (Fig. 16:1), a bronze detail of ammunition (Fig. 16:2) from the building No 1912; and some coiled wires, perhaps for ear-rings or other decorations (Fig. 13:12; 16:3) from both buildings. The rare find in the underground structure No 1911 is a small part of a tripartite bone or antler comb (Fig. 13:13) of Thomas type III, dating from the end of the 4th to the beginning of the 5th century AD (Thomas 1960: 104 ff.). Such combs are surely attributed to the final stage of the Cherniakhiv culture (Shyshkin 2002: 244–246; Petrauskas 2021: 24–25, fig. 6.7).⁹

⁹ See the paper by Alisa Semenova about the finds of Cherniakhiv type combs from Olbia in this volume. I express my gratitude to Serhii Didenko and Oleh Petrauskas for their help in the determination of some groups of late-Roman archaeological materials published in this paper.



Fig. 15. Diagnostic finds from underground structure No 1912: 1–5. Red slipped dishes; 6. Kitchen ware; 7. Red slipped lamp; 8–14. Cut amphora bodies; 15. Cut kitchen ware body. Photos: A. Buiskykh.



Fig. 16. Diagnostic finds from underground structure No 1912: 1. Iron spear ferrule; 2. Bronze clasp; 3. Bronze coiled wire. Photos: A. Buiskykh.

To summarize, the general dating of the two building structures based on the analysis of the archaeological materials is the second half of the 4th to the beginning of the 5th century AD.

It is not yet clear if the underground structures had been inhabited, and whether there were any floors above. Moreover, there is no explanation how both constructions had two stories – underground and ground-level. Meanwhile, more arguments seem to support the idea of underground constructions. The small area of both constructions and their overall depth of more than a metre suggest that they were not inhabited. For this reason it is more likely that they were underground household cellars. But it must be specially mentioned that the people who built them were acquainted with the technologies of provincial Roman building tradition and used a mortar plastering in the interior.¹⁰ The Roman building tradition was known in principal to the population of the Cherniakhiv culture, but the archaeological examples of this idea are too rare (Shchukin 2005: 136). It is possible also to propose that both

¹⁰ I would like to mention especially that the use of the Roman building technique in Late-Roman Olbia is established for the first time. This fact, however, differs from Krapivina's previous idea about wide use of Roman mortar in the building activity of Late-Roman Olbia (Krapivina 2014: 148), because it was formulated on the basis of misinterpretation of the Roman citadel buildings.

buildings, being located so close, created a single building complex, surrounded by numerous pits.

The buildings that are excavated in Olbia have no direct similarities among the contemporary dwellings excavated in the settlements of the Cherniakhiv culture in the vicinity of Olbia, which is why they are so difficult to interpret. First of all, the normal cellars with stone walls, that are typical for Olbian Hellenistic and Roman dwellings, have no constructive and typological link with the discussed underground structures. In general, fully or partly underground dwellings with rectangular or square forms are known for the settlements of the Cherniakhiv culture; the use of clay with wooden reinforcement in the construction of walls was widespread there too (Zhurko 1983: 10–11). Underground dwellings are typical for the Cherniakhiv settlements in the southern part of the former Olbia *chora* that lacks natural building stone (Magomedov 1987: 15–16). But even there the fully underground structures had an area of about 17–29 m²; dwellings that were partly cut into the subsoil, had a smaller area of about 8–17 m² (Magomedov 2001: 21). As can be seen, the Olbian dwellings are the smallest in this list, which makes it extremely unlikely that they were used for the purposes of habitation.

The small number of excavated structures prevents us from drawing at this stage any conclusion about the origin of this building tradition in Late Roman Olbia. This point of view is based on my personal experience of annual excavations and the studying of the historical development of the building activity in the city. Up to now there is no evidence to propose a continuation of the local building tradition, existing here in the previous time, in the 1st to the first half of the 3rd century AD up to the Late Roman period. None of the previous buildings at the Roman citadel were in use more, moreover they were demolished down to the foundation after their burning during the invasion of the Goths and destruction in 269–270 AD.¹¹ It was possible only to establish the use of a small part of the flat pavement of the *principia* courtyard as an entrance to the Late Roman house. This single exception of the adoption for reuse of a part of a former construction that was more than a century old, proves the validity of my statement.

Studying the Cherniakhiv culture period buildings in Olbia allows us to turn to one question that looks to be still under discussion. It is necessary to pay special attention to the idea, expressed by Magomedov, that Late Roman Olbia, together with the former Roman fortified settlements around the city, preserved the defensive buildings that belonged to the Roman garrison. In his opinion, it was “a small fortified city, trading and handicraft centre” that was a military and administrative

¹¹ The traces of a strong fire were sought in the process of excavation of all the houses (Buyskikh and Novichenkova 2021: 19 ff.).

centre of the barbarian kingship that existed in this territory after the destruction of the empire of the Goths (Magomedov 2000: 224). This means that Olbia and the surrounding settlements would have been a kind of fortified enclave inside the territory occupied by the Huns in the northwestern Black Sea littoral. This enclave was inhabited by Ostrogoths, left here after the invasion of the Huns (Petrauskas 2021: 17 with literature). But this conclusion contradicts the excavated evidence obtained during the archaeological research in the Roman citadel.¹² This shows that in the Late Roman period, the defensive system was not in use; the walls and the towers were destroyed and their remains were being demolished for the building material.

In this connection, there is another question that must be decided, to what degree Late Roman Olbia was an urban space in the general sense of an urban space; whether the building activity conducted there permit us to define it as a city (or a fortress?), and compare it with the urban structure of the previous time. If we adopt the idea that it was a city that continued to develop the Roman building traditions, it is necessary to identify the presence of an inner organisation, local administration and city bureaucracy, responsible for this activity, first of all, connected with building of defensive structures, and finally, to answer a lot of questions connected with the political and social organisation of the Ostrogoths inside the Hunnic empire. But the narrative tradition, first of all, that of Jordanes, describing the Hunnic invasion (*Iord. Get.* 246), does not mention Late Roman Olbia, which, together with the total absence of any epigraphic documents means that any suppositions on this topic are not supported by any evidence.

That is why one can still draw only preliminary conclusions about the city of Olbia in the latest period of its existence. At the moment, it is possible to speak with more certainty about the settlement of the Cherniakhiv culture on the site of the former Roman fortress at Olbia. Besides, this settlement covered a larger area than the Roman citadel had. The archaeological materials of the latest period are distributed across the whole Lower Town together with poorly preserved buildings, including its northern part where the above-mentioned child's burial was found. The large number of imported ceramic pottery vessel, amphoras, and other goods of glass and metal, imported to Olbia as a result of sea trade, allow us to propose the harbour might have still been functioning in the Lower Town. The maritime trading connection used by the Goths, and the possible functioning of the Olbian harbour as a part of their communication network, allow us to propose this settlement as a potential distributive centre, from where these goods passed on to the surrounding sites and even further. The political, economic and social status of the new settlement on the site

¹² Krapivina, who denied the presence of Cherniakhiv cultural strata in late-Roman Olbia, dated the destruction of the defensive buildings to the times of the "wars of the Goths" (Krapivina 2014: 147).

of the Roman Olbia, that existed there up to the beginning of the 5th century AD must be studied specially. The published results of the modern excavations in Olbia allow me to be optimistic.

REFERENCES

- Arsen'yeva, T. M. and Domžalski, K. 2002. Late Roman red slip pottery from Tanais. *Eurasia Antiqua* 8: 415–491.
- Budanova, V. P. 1990. *Goty v epokhu Velikogo pereseleniya narodov*. Moskva.
- Buyskikh [Buiskyykh], A. V. and Novichenkova, M. V. 2021. The Roman Citadel in Pontic Olbia. *Ancient Civilizations from Scythia to Siberia* 27: 11–67.
- Chrzanovski, L. and Zhuravlev, D. 1998. *Lamps from Chersonesos in the State Historical Museum—Moscow*. Roma.
- Didenko, S. V. 2018. Antichnyi keramichniy import u cherniakhivskii kulturi na terytorii Ukrainy. Diss., Kyiv, Instytut Arkheolohii NAN Ukrainy.
- Krapivina, V. V. 2014. Olviia Pontiiska. Hreko-rimskiy ta piznoantichnyi periodi. Kyiv.
- Krapivina, V. V. and Domžalski, K. 2008. Pozdneantichnaya Ol'viya v svete nakhodok krasnolakovoy keramiki. In V. Yu. Zuev (ed.), *Bospor i Severnoye Prichernomor'e v antichnuyu epokhu. Materialy jubileynogo kruglogo stola posvyashchennogo 10-letiyu konferentsii „Bosporskiy Fenomen”*, 73–81. Saint Petersburg.
- Leypunskaia, N. A. 1988. Predmest'e pervykh vekov nashey ery v Nizhnem gorode Ol'vii. In V. A. Anokhin (ed.), *Antichnye drevnosti Severnogo Prichernomor'ya*, 71–82. Kyiv.
- Leypunskaia, N. A. 2006. Detskoe pogrebenie III–IV vv. iz Ol'vii. In D. V. Zhuravlev (ed.), *Severnoe Prichernomor'e v epokhu antichnosti i srednevekov'ya*, 183–188. Moskva. Trudy Gosudarstvennogo Istoricheskogo muzeya, 159.
- Magomedov, B. V. 1987. *Chernyakhovskaya kul'tura Severo-Zapadnogo Prichernomor'ya*. Kyiv.
- Magomedov, B. 2001. *Chernyakhovskaya kul'tura. Problema etnosa*. Lublin.
- Magomedov, B. 2007. Olviia i varvary v piznoantichnyi period. *Arkheolohiia* 4: 47–54.
- Magomedov, B. V. 2015. *Keramicheskiye pryaslitsa chernyakhovskoy kul'tury*. Kyiv.
- Magomedov, B. 2020. Gorod Ol'viya: chernyakhovskiy gorizont. *Keramika iz fondov Instituta arkheologii NANU. Stratum plus* 4: 219–408.
- Magomedov, B. V. and Didenko, S. V. 2011. Sinopean Amphorae and Chernyakhov Culture. *Ancient Civilization from Scythia to Siberia* 16: 479–485.
- Petrauskas, O. V. 2021. Cherniakhivska kultura ta huny (za materialamy arkheologichnykh Pamiatok Ukrainy). *Arkheolohiia* 2: 15–32.
- Schultze, E., Magomedov, B. V. and Buyskikh [Buiskyykh], S. B. 2006. Grautonige Keramik des Unteren Bugebietes in römischer Zeit. Nach Materialien der Siedlungen in der Umgebung von Olbia. *Eurasia Antiqua* 12: 289–352.
- Shchukin, M. B. 2005. *Gotskiy put' (Goty, Rim i Chernyakhovskaya kul'tura)*. Saint Petersburg.
- Shelov, D. B. 1978. Uzkogorlye svetloglinyane amfory pervykh vekov nashey ery. Klassifikatsiya i khronologiya. *Kratkie Soobshcheniya Instituta Arkheologii AN SSSR* 156: 16–21.
- Shyshkin, R. G. 2002. Khronologicheskie priznaki trekhsloynykh grebney chernyakhovskoy kul'tury. In S. D. Kryzhytskiy, C. P. Pachkova, K. P. Bunatyan and N. S. Abashina (eds), *Suchasni problemy arkheolohii*, 144–146. Kyiv.

- Sorochan, S. B. 1982. Pro tak zvani rubchasti svitylnyky z Khersonesa. *Arkheolohiia* 38: 43–49.
- Thomas, S. 1960. Studien zu den germanischen Kämnen der römischen Keiserzeit. *Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege* 8, 54–215.
- Tvardetskyi [Twardecki], A., Buiskykh, A. V. and Novichenkova, M. V. 2016. Polsko-ukrainska misiia v Olvii: pershi rezultaty novoho doslidnitskoho proektu. In J. Fornasier, A. Tvardetskyi [Twardecki], D. Braund, A. V. Buiskykh, N. O. Gavrylyuk, M. Matera and I. M. Sheiko (eds), *Pivnichne Prichenromoria za antychnoi doby (na poshanu S.D. Kryzhytskoho)*, 45–52. Kyiv.
- Twardecki, A. and Buyskikh [Buiskykh], A. 2021. The Cherniakhov Culture in Olbia Pontica in the Light of Polish-Ukrainian Excavations 2016–2018. *Sprawozdania Archeologiczne* 73(2): 251–273.
- Zeest, I. B. 1960. Keramicheskaya tara Bospora. Moskva. *Materialy i issledovaniya po arkheologii SSSR* 83.
- Zhurko, A. I. 1983. *Zhilye sooruzheniya plemen chernyakhovskoy kul'tury*. Avtoreferat dissertatsii na soiskanie uchenoi stepeni kandidata istoricheskikh nauk. Institut istorii AN USSR, Kyiv.

The Last Period of the History of Olbia: the First Gothic Town

Boris Magomedov^a

Olbia's archaeological materials show that after the departure of the Roman garrison and local residents, the city was briefly abandoned (270s – early 280s AD). Then a new barbarian population appeared. It had clear signs of the Cherniakhiv culture, the ethnic basis of which were the Germanic Goths. Probably, at the beginning the only interest of barbarians was the seaport. The last prosperity of the city occurred in the Hunnic period, and it came to the end together with the Cherniakhiv culture in the first third of the 5th century. Olbia was reborn as a small fortified city, a craft and trade centre. The Goths restored the Roman Citadel, as well as several forts on the borders of the former Olbian state. Perhaps here was the military-administrative centre of one of the early kingdoms, which arose after the collapse of the Ostrogothic “power of Ermanaric”, and was dependent on the Hun leaders.

KEY-WORDS: Olbia, Cherniakhiv culture, Hunnic period, Goths, greyware ceramics, import

INTRODUCTION

The last period of Olbia Pontica's history has long been considered by archaeologists and historians as a process of gradual extinction of ancient culture without sharp ethnic changes in the structure of the urban population. At the same time, they associated the decline and death of the ancient city with the invasion of Goths into the Northern Black Sea region (Kryzhytskyi *et al.*, 1999: 320–324, 337–341). According to modern researchers, this Germanic people, who came from the territory of modern Poland, was the main creator of the Cherniakhiv culture (Magomedov 2001). In the second third of the 3rd – early 5th centuries, this archaeological culture occupied large areas of the forest-steppe and steppe zone of what is now Ukraine, Moldova, part of Romania and some regions of the Russian Federation. In addition to the Goths, it united groups of people from other Germanic tribes and from the local population (Alans, Dacians, Slavs).

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The first sites with materials of the Cherniakhiv culture near Olbia were found in 1947–1948 (Slavin 1952a: 55–57), and then dozens of Cherniakhiv sites were discovered in the Lower Buh region (Magomedov 1987a; Kryzhytskyi *et al.*, 1990: 77–97; Grebennikov 2016; Fig. 1). Some burial grounds and settlements have been excavated (Magomedov 1979; 1991; 2004; Grebennikov *et al.*, 1982). Cherniakhiv materials were also constantly found during excavations of the later layers of Olbia, but they rarely attracted attention. Although back in 1952, the authoritative explorer of the city L. M. Slavin associated the finds of Cherniakhiv ceramics in the Olbia Citadel with the presence of a “northern population” (Slavin 1952b: 40). Later, finds of brooches and combs of obviously Cherniakhiv types from the city and the necropolis were published (and republished from the excavations of B. V. Farmakovskiy in 1901–1903; see below). The finds of characteristic three-handled vases in the Olbia Citadel, unknown among ancient Roman pottery, confirmed the presence of the Cherniakhiv population (Magomedov 1985; 2007). The long-term leader of the Olbia expedition, S. D. Kryzhytskyi, presumably associated with this culture the final stage of life in the city, identified in the upper layers of the Citadel and the Lower Town (Kryzhytskyi 1985: 167–168, 178). However, some researchers believed that the nature of the material culture of Olbia remained that of Roman antiquity to the end, and considered greyware ceramics of the Cherniakhiv type as a product of local tradition (Gudkova and Krapivina 1988; 1990; Krapivina 1993: 155–156). This position is partly explained by the fact that throughout the history of the ancient city, local potters had produced grey ceramics too, along with more common oxidised wares. Fragments of such vessels from the early Roman period had a certain resemblance to fragments of Cherniakhiv tableware (grey colour, polished surface), and both of them lay in the upper, often mixed layers of Olbia and its environs. That made the false impression that both groups of pottery were synchronous.

In 2003, we studied the materials from eight hillforts that were part of the defence system of Olbia during the Roman period (Schultze *et al.*, 2006; 2009). The results of the study of closed deposits showed that the forts had a cultural layer of the 1st–3rd centuries AD with ceramics of the Greco-Roman types. Six of these strongholds also had an upper layer (second half of the 4th – early 5th century), which contained ceramics of the Cherniakhiv types and was left exclusively by the bearers of this culture (fortifications at Kozyrka 1, Zoloty Mys, Petukhivka 2, Stanislav 1, Stara Bohdanivka 1, Mys; Fig. 1). Later it turned out that deposits with the same finds were in Olbia. Important results were obtained in the study of the chemical composition of pottery samples from these sites, supplemented with samples from the Olbian Citadel (Schultze *et al.*, 2021). It has been established that for the vast majority of Greco-Roman types of vessels from these sites they used the clay with a high content of limestone, while the vessels of Cherniakhiv types were made of clay without noticeable limestone impurities. Consequently, both ceramic complexes are based on different technological traditions and belong to different periods of Olbia’s history.

In the 4th century, the inhabited area of the city was greatly reduced, compared to the Hellenistic and Early Roman periods. In the Upper Town of Olbia, it occupied only

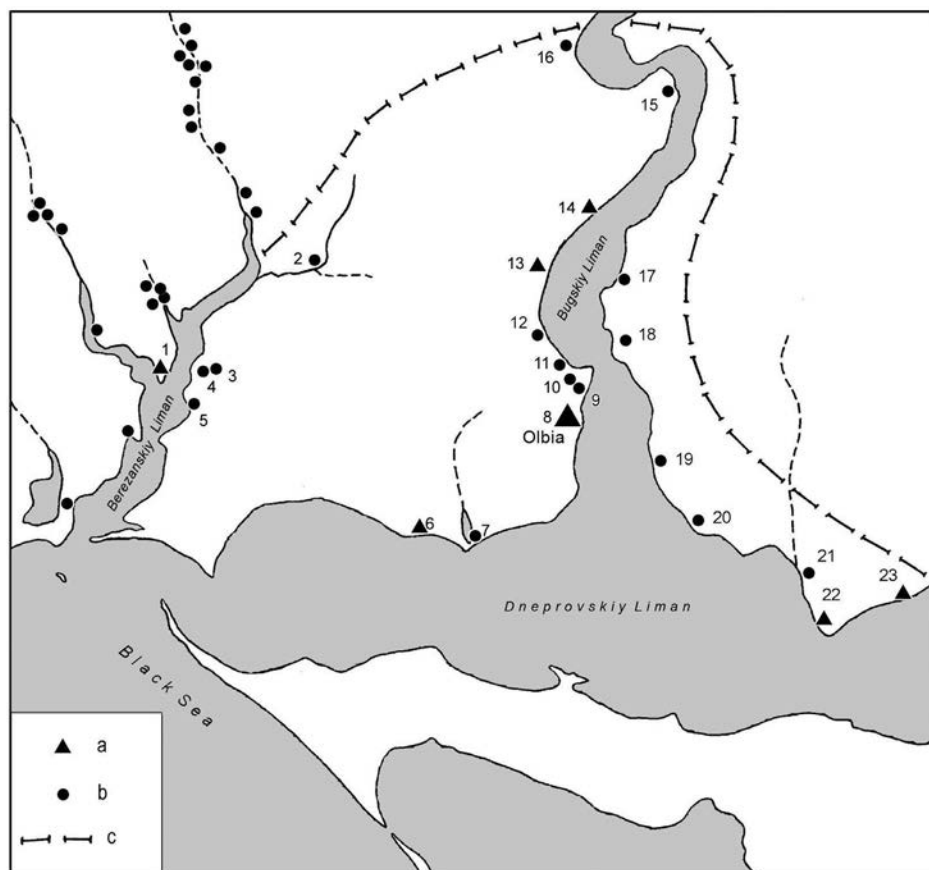


Fig. 1. Sites of Cherniakhiv culture dated to the late 3th–4th centuries on the Lower Buh (*a* – forts, *b* – rural settlements, *c* – border of the Olbian state until the middle of 3rd century).

1 – Mys; 2 – Kamianka-Anchekrak; 3 and 4 – Izhetske 2 and 3; 5 – Kaborha 4; 6 – Petukhivka 2; 7 – Adzhiholska Kosa 2; 8 – Olbia; 9 and 10 – Voloska Kosa 11 and 9; 11 – Chertovate 1; 12 – Kateline 2; 13 – Kozyrka 1; 14 – Stara Bohdanivka 1; 15 – Mala Korenikha 1; 16 – Velika Korenikha 3; 17 – Halitsinivka; 18 – Lishoz 1; 19 – Khabliv khutir; 20 – Skelka 2; 21 – Oleksandrivka (Aleksandrovka) 1; 22 – Stanislav 1; 23 – Zoloty Mys. After: Schultze *et al.*, 2006: abb. 2.

the Roman Citadel (originally built in the 2nd century AD), and in the Lower Town – the part that adjoined the port (Fig. 2). In the Citadel, large-scale excavations of layers of the Roman period were carried out in Trenches in sector L (by F. M. Shtitelman, 1951–1953; R. I. Vetshtein, 1964–1971) and Trench R-25 (by V. V. Krapivina and A. V. Buiskykh, 1982–2021). Since 2016, excavations in the new area, Trench R-23 have been carried out by the Ukrainian-Polish expedition led by Alfred Twardecki and Alla V. Buiskykh. In the Lower Town, the latest

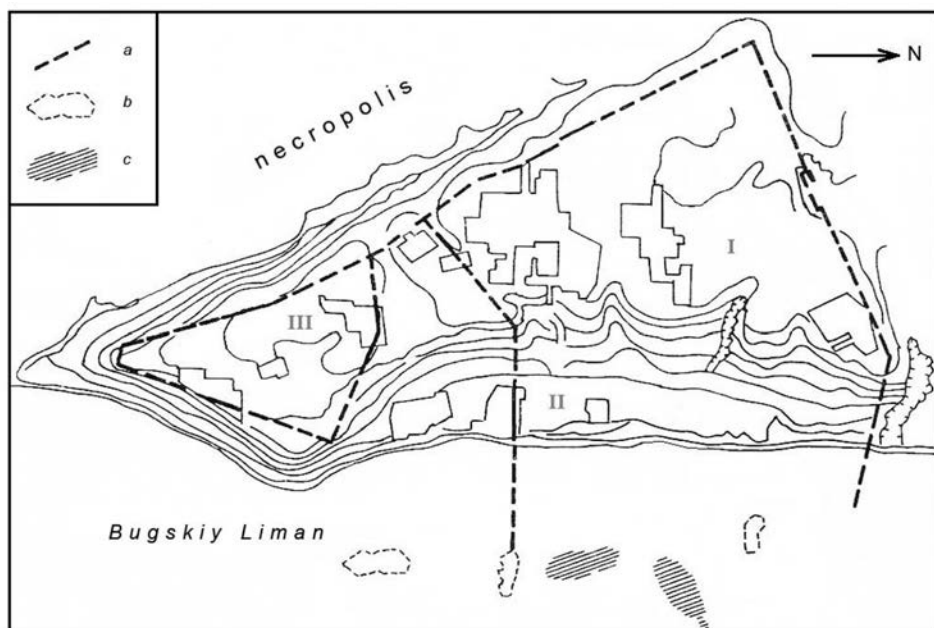


Fig. 2. Olbia plan. *a* – defensive walls; *b* – remains of stone structures in the flooded part; *c* – accumulations of amphoras in the flooded part. I – Upper Town; II – Lower Town; III – Citadel. After: Krapivina 1993: fig. 3, with changes by the author.

materials were found in the Trenches of sector NG (excavated by L. M. Slavin, 1935–1936), and in sector NGC (excavated by S. D. Kryzhytskyi, 1963–1966) and in the flooded part of the city (investigated by S. D. Kryzhytskyi, 1971–1977).

Most of the finds of the Cherniakhiv period came from the Citadel. In the Lower Town, they are represented mainly by amphorae and *pithoi*. The exception is Burial no. 181 with clay vessels and glassware (Leypunskaya 2006).

Cherniakhiv vessels make up only part of the finds from the Citadel. The majority of greyware pottery is represented by items from the 1st to the first half of the 3rd century AD (Fig. 3). This tableware has a traditional set of forms, mainly characterised by grey and red vessels of the early periods of Olbia's history. In the vast majority these are hemispherical bowls with rim turned inward, also various jugs and other shapes. The surface of all these products is usually polished and sometimes decorated with polished ornaments. Cookware is not represented among Greco-Roman grey ceramics (pots are red or brown).

Cherniakhiv greyware ceramics from Olbia and the neighbouring fortresses is completely different, and practically identical to the finds at hundreds of sites of this culture

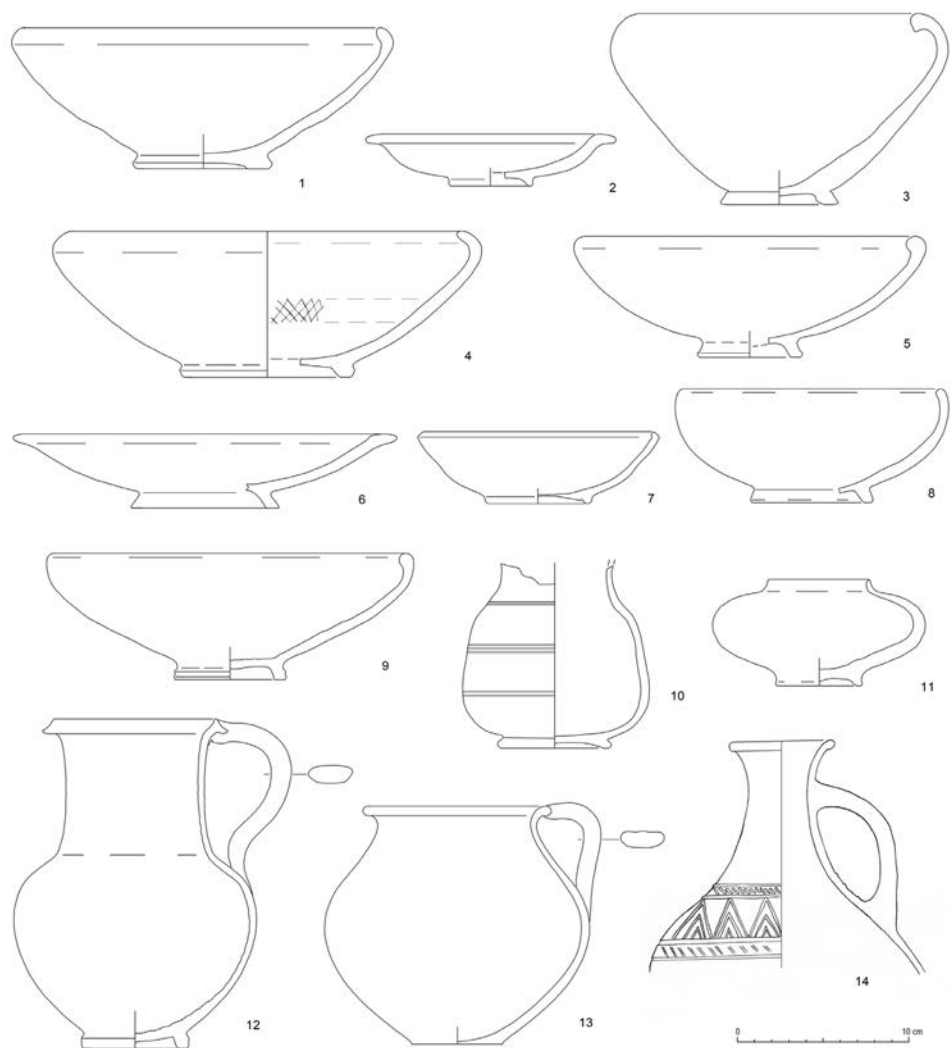


Fig. 3. Greyware tableware of the 1st – mid 3rd centuries from Olbia, R-25 section.

of the 3rd–4th centuries. Bowls, which are the most common form of tableware, usually have a “biconical” profile (Fig. 4). Three-handled vases are a characteristic form of Cherniakhiv crockery, which has its roots in the Przeworsk culture. The five specimens known to us from Olbia (Fig. 5:1, 2, 4, 6) belong to the “Olbian” type (Magomedov 2001: 49). Others also were

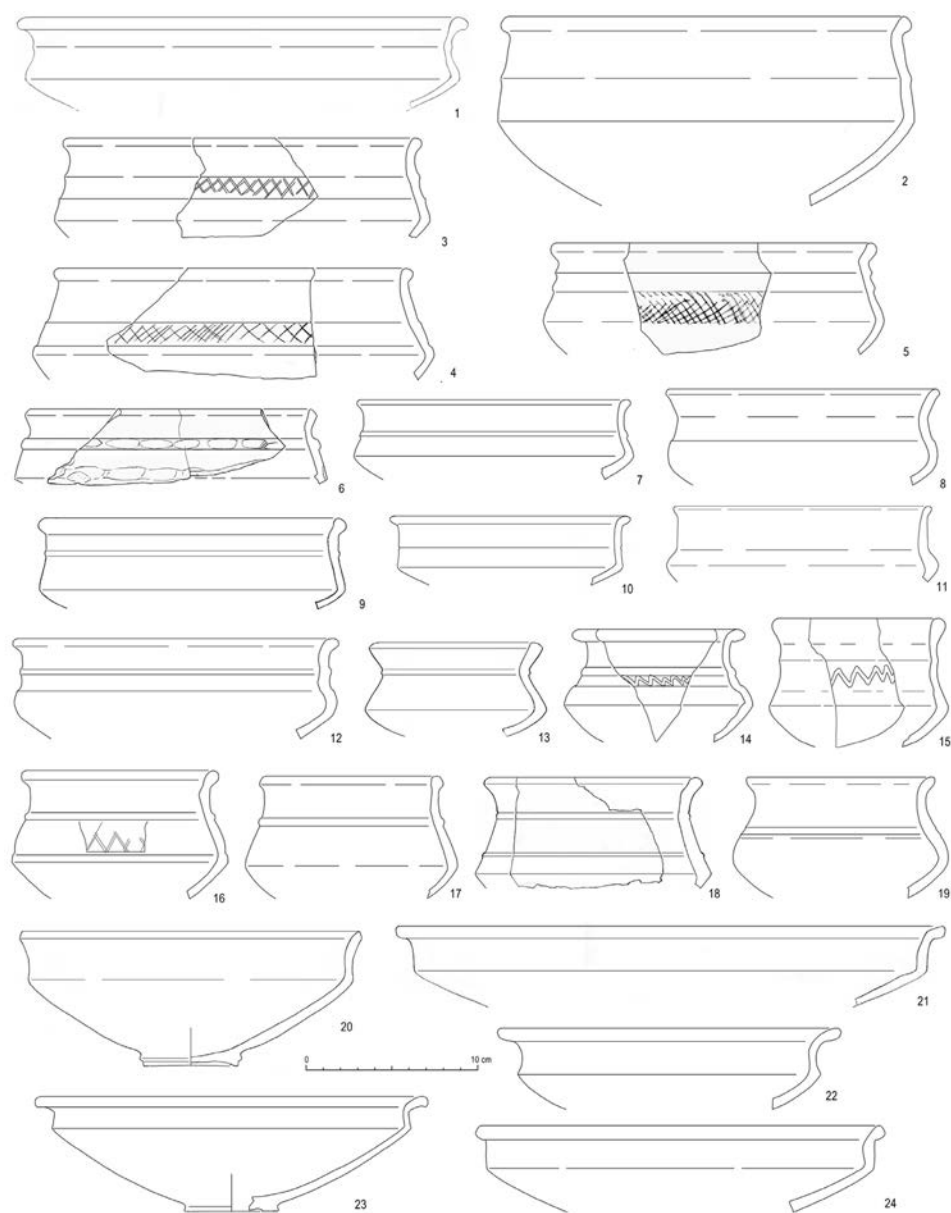


Fig. 4. Table bowls of the Cherniakhiv culture from Olbia, R-25 section.

found in sites in the southern regions of the Cherniakhiv culture, namely: in the Nikolaev region – Kamianka-Anchekrak, Koblevo and Luhove (Lugovoe; four specimens); in the Odesa region – Nestoita; in Moldova – Lazo (Symonovich 1979: fig. 10:9; Kozlov 1989: fig. 3; Magomedov 1991: fig. 10:1; Levinskiy 1999: fig. 35:5; Magomedov and Gudim-Levkovich 2003: fig. 8:1–4). The dated complexes belong to the second half of the 4th – early 5th centuries. One of the Olbian vases is decorated with a frieze depicting combs (Fig. 5:1). Similar drawings are known to us on eight vessels of the Cherniakhiv culture, including four items from the Northern Black Sea region (Magomedov 2022: 285, fig. 2).

Two jugs (probably also the lower part of the third) with oblique flutes (Fig. 5:7, 9, 10) belong to type 13a, the “Olbian” variety (Magomedov 2001: 52). A similar specimen was found whole at the Danilova Balka burial ground in the middle reaches of the Southern Buh River (Fig. 5:11). Fragmented specimens came from the Kaborha (Kaborga) IV settlement and the Kamianka-Anchekrak cemetery near Olbia, as well as from the Luhove settlement (Symonovich 1964: fig. 23:10; Magomedov 1979: pl. I:29; 2004: fig. 18:5; Magomedov and Gudim-Levkovich 2003: 37). In addition to these jugs, many vessels were also decorated with relief ornaments in the form of cuts or flutes (Figs 4:6; 5:1, 2, 6), which is characteristic of ceramics of the late stage of the Cherniakhiv culture (Schultze and Strotsen 2008). Grey kitchen pots and bowls are typical of this culture, as well as *pithoi* – large vessels for storing food (Fig. 6). The ceramic material from the cultural layer is represented mainly by fragments. A set of whole utensils (dining bowl, jug and two cups, three kitchen pots, also a glass cup) was found in the Cherniakhiv Burial 181 in the Lower Town (Fig. 7).

In addition to ceramics, there were combs and fibulae of the Cherniakhiv culture found in Olbia. The combs are made of deer antler and have a three-layer structure. Four specimens of Thomas types I (Fig. 8:1) and III (Fig. 8:2) came from excavations of the early 20th century, mainly from the necropolis, and they were dated to the 4th century (Thomas 1960; Sorokina 1976: 203, fig. 3; Peters 1986: 67, pl. XIII:13–15).

Cherniakhiv fibulae, known to us from the excavations of Olbia before 1938, were described in the monograph by A. K. Ambroz (1966: 64, 66, 73). Early Cherniakhiv brooches of the Almgren VII group (second third of the 3rd – early 4th centuries) from the Upper Town and the necropolis (Figs 8:3, 4) were left by the first Gothic inhabitants of Olbia. Two specimens from the Lower Town are dated to the second half of the 4th century (Fig. 8:5) and to the end of the 4th – beginning of the 5th centuries (Fig. 8:6). Among the unpublished specimens from the excavations of the Citadel in 1951–1952, there are two fibulae which belong, according to description, to the Cherniakhiv types of “crossbow” and “two-plate” fibulae (Shtitelman 1952).

The Cherniakhiv layers are dated by imported items. These are amphorae, red slipware, and glassware from the second half of the 3rd – early 5th centuries. At least, such items are absent in the closed complexes of the previous period before the middle of the 3rd century.

The range of imported ceramics of the late Roman period, like other finds of this time in Olbia, basically corresponds to the finds at the Cherniakhiv sites of the Northern Black



Fig. 5. Tableware of the Cherniakhiv culture from Olbia, sectors L (1, 2, 4–6) and R-25 (3, 7–10);
11 – jug from the Cherniakhiv cemetery at Danilova Balka.

1, 2, 4–6 – after: Magomedov 2020: fig. 2:1–5; 9, 10 – after: Gudkova and Krapivina 1988: fig. 3:13,
14; 11 – after: Symonovich 1964: fig. 23:10.

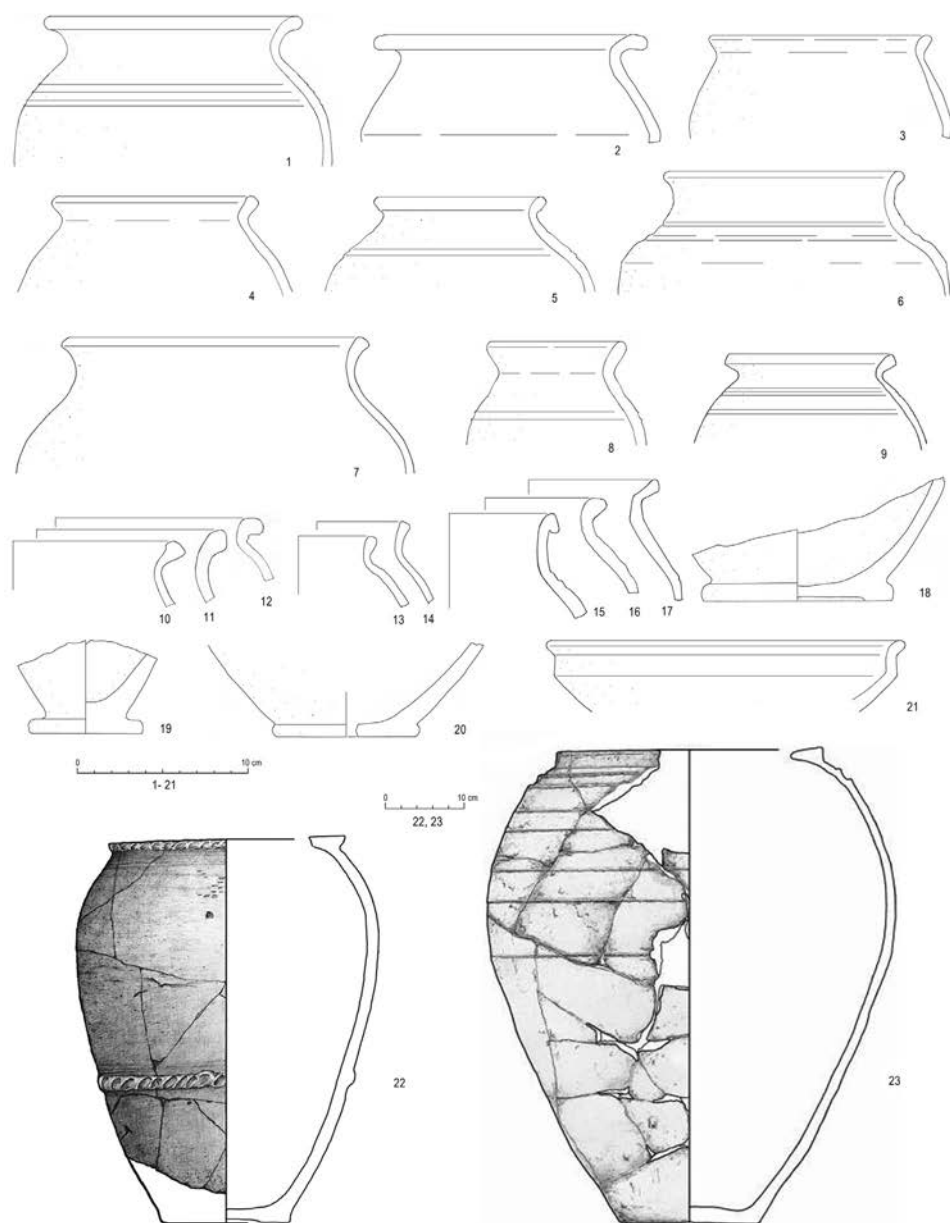


Fig. 6. Kitchen vessels of the Cherniakhiv culture from Olbia, sector R-25 (1-21); pithos from sector R-23 (22, 23). 22 – after: Twardecki and Buiskykh 2021: Il. 6:A; 23 – after: Buiskykh *et al.*, 2020: fig. 2:2.

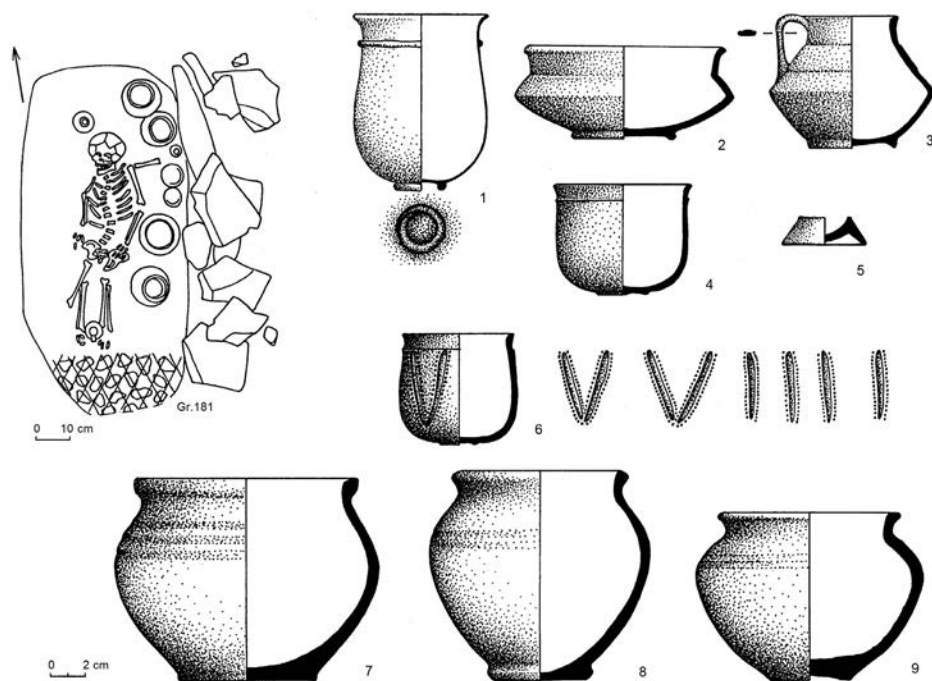


Fig. 7. Cherniakhiv period child burial Nr. 181 from the Lower Town of Olbia. 1 – glass cup; 2–4, 6 – table ceramics; 5 – bottom of a red clay vessel; 7–9 – kitchen ceramics.

After: Leypunskaya 2006: figs 1, 2.

Sea region.¹ Most of the fragments (Fig. 9:1) belong to red-clay amphorae from Sinope, type C Snp I–1 (Zeest 100, Delakeu) from the second half of the 4th to the first half of the 5th centuries (Magomedov 2011). They are present in the Citadel, in the Lower Town and in the flooded area of the port (Leypunskaya 1984: 76; 1988: 79; Krapivina 1993: 98, type 29; 2014: fig. 214:11–14). Fragments of light clay amphorae of Shelov E type (Zeest 104) are quite common (Leypunskaya 1988: 79; Krapivina 2014: fig. 214:5, 8–10). They were produced in Heraclea at the end of the 4th – the middle of the 5th century (Magomedov 2001: 62). Interestingly, fragments of Shelov F type amphorae are rare in Olbia (Krapivina 2014: fig. 214:6, 7), while such fragments and whole specimens of that type are known practically throughout the entire territory of the Cherniakhiv culture. Different subtypes

¹ I am grateful to Dr Serhii Didenko for advice on imported ceramics from Olbia.

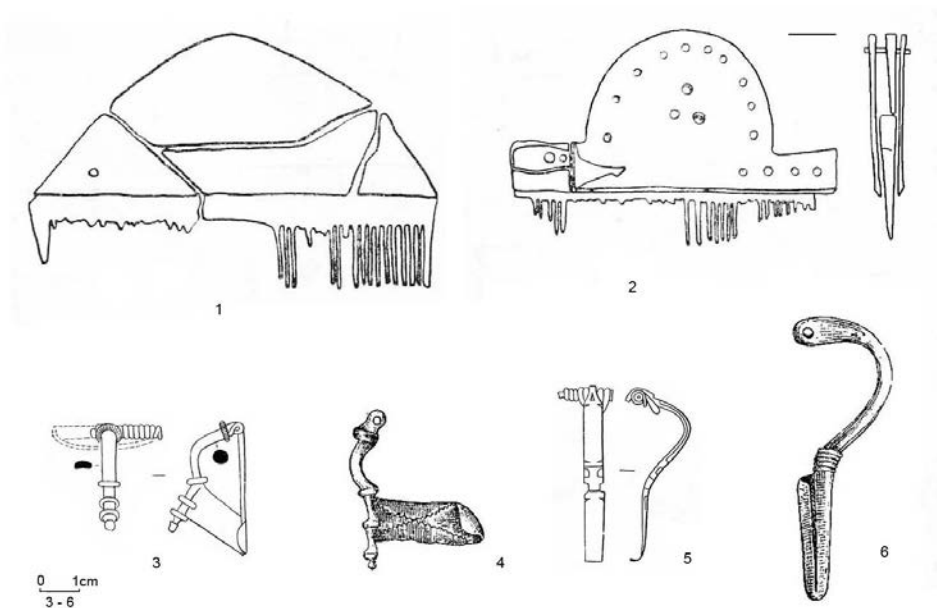


Fig. 8. Combs (1, 2) and fibulae (3–6) of Cherniakhiv culture types from the city and necropolis of Olbia. 1, 2 – after: Sorokina 1976: fig. 3; 3, 5 – after: Ambroz 1966: tab. 11:13; 12:15; 4, 6 – after: Furmanska 1953: tab. IV: 8; V:7.

of these amphorae are dated generally to the 320s–370s (Didenko 2014: 46). Their small number in Olbia is an indicator of the low activity of the Cherniakhiv population in the city during most of the mentioned period, probably, except for its last segment.

Other types are quite rare both in Olbia and in Cherniakhiv settlements. This is a group of North Pontic amphorae with grooved handles of Zeest type 72–73 (they are also type Böttger III.1, “Myrmekiam”, type “Charax, burial 33”). The specimen from the Citadel (Krapivina 2014: fig. 214:1) belongs to type 3 according to Serhii Didenko and is dated mainly to the years c. 320–360 (Didenko 2018: 7). Fragments of amphorae type LRA 1 were also found in the Citadel (Fig. 9:2). They were produced in the northeastern Mediterranean in the 4th – 6th centuries (Riley 1979: 212–215, fig. 91).

Among the red slip ware from the excavations of the Citadel, there is a predomination of vessels of the PRS group (Pontic Red Slip Ware), according to Krzysztof Domžalski. The place of their production is still unknown, and the flourishing of production falls into the period from the end of the 4th to the first half of the 5th century (Krapivina and Domžalski 2008: 78). The most numerous are fragments of dishes of PRS type (Fig. 9:3–6) of form 1A (type 62B according to Hayes 1972), dating from the middle to the end of the 4th century (Krapivina and Domžalski

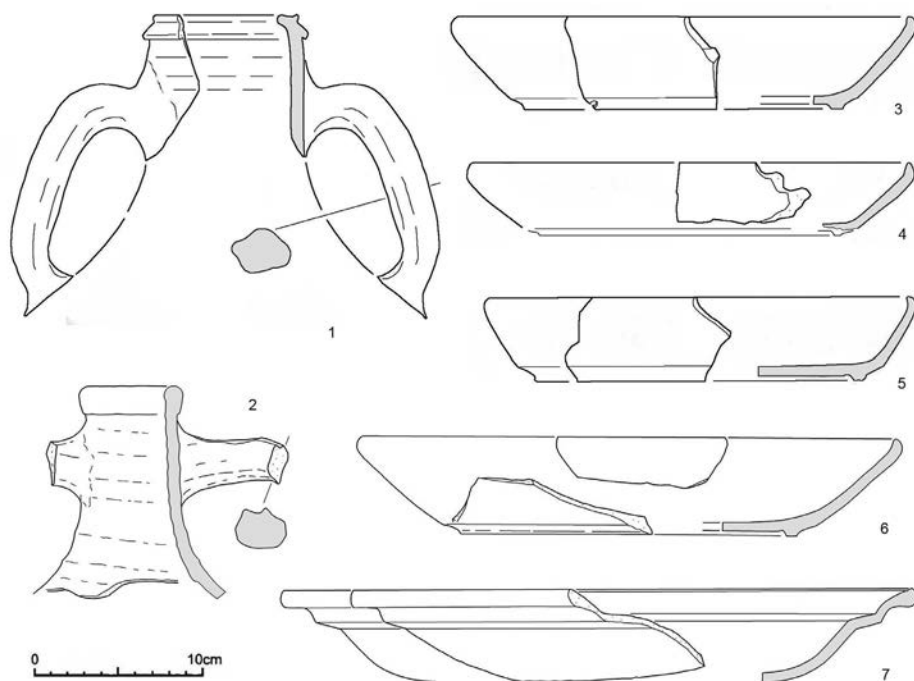


Fig. 9. Imported vessels from Olbia, section L: amphorae of types Zeest 100 (1) and LRA 1 (2), red slip vessels of types PRS form 1A (3–6) and ARS form Hayes 67 (7).

After: Magomedov 2020: fig. 2:17–23.

2008: 79, fig. 1:1, 2; Didenko 2009). The same form is the dominant type on the Cherniakhiv sites of the Northern Black Sea region in the complexes of the middle of the 4th – early 5th centuries (Magomedov and Didenko 2009: 327–328; 2012: 175). There are also fragments of North African vessels of ARS (African Red Slip Ware) type, form Hayes 67, which were produced on the territory of modern Tunisia in the second half of the 4th – third quarter of the 5th century (Fig. 9:7; Hayes 1972: 112–116, fig. 19; Krapivina and Domžalski 2008: 79, fig. 2:6, 7).

Information about the finds of Late Antique glass vessels in Olbia was collected by N. P. Sorokina, who found analogies for many types of them on the sites of the Cherniakhiv culture. The fragment of bowl decorated with vertical ribs (“Bodenrippenschale”) belongs to the period of the late 3rd – early 4th century (Rau 1972: 119–123; Sorokina 1976: fig. 2:1). Cups with polished ovals were especially popular among the Cherniakhiv population. The lower parts of two such cups, with characteristic features of the period from the last quarter of the 4th to

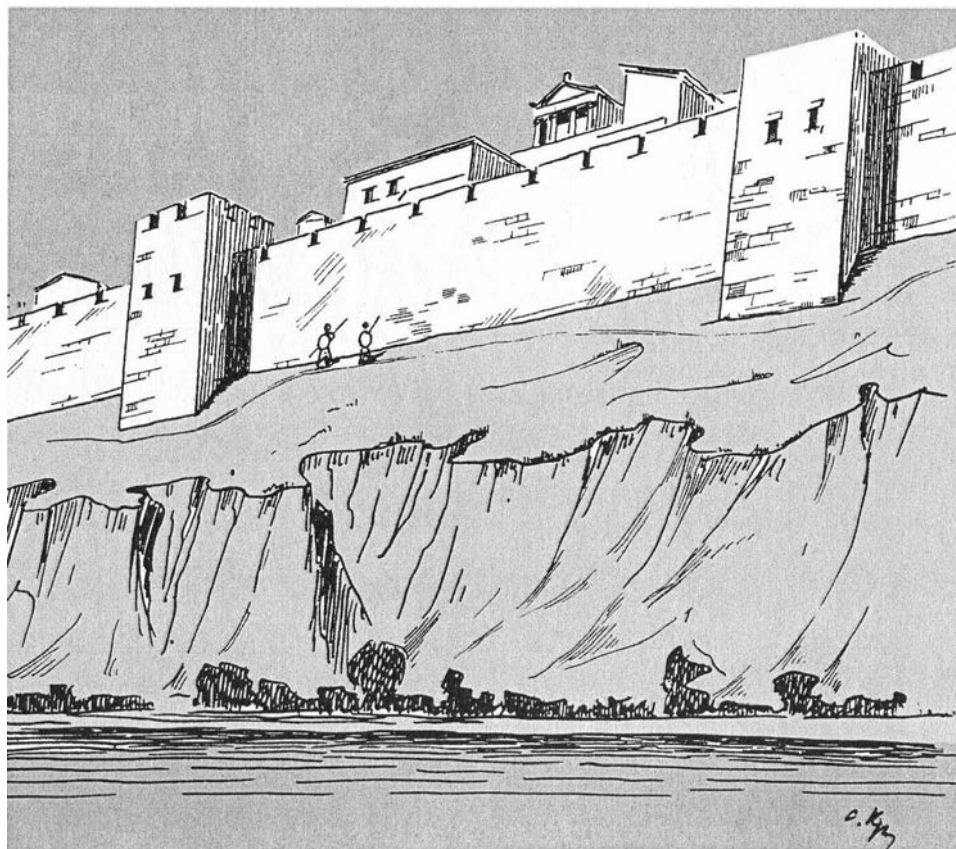


Fig. 10. The southeastern line of fortifications of Olbia's Citadel (reconstruction by S. D. Kryzhytskyi). After: Kryzhytskyi 1985: fig. 81.

the beginning of the 5th century, were found in the Citadel (Sorokina 1976: fig. 2:2, 3). Most of the fragments, decorated with trailed threads and drops of blue glass, are dated to the same period (Sorokina 1976: figs 1:1–5; 4: 1–3). A whole glass vessel, decorated with soldered thread under the rim, was found in the Cherniakhiv Burial 181 mentioned above (Fig. 7:1). Similar glass from the Cherniakhiv cemetery of Dancheny was assigned to the Eggers 239 type and dated to the second half of the 4th – beginning of the 5th centuries (Shchukin and Shcherbakova 1986: 192, pl. XLV:20). Such glass vessels with trailed thread decoration and without it are often found on Crimean sites in assemblages mainly of the middle – second half of the 4th century (Strzheletskiy *et al.*, 2005: 122). There is a widespread opinion about the production of such vessels in Tauric Chersonese.

Archaeological material shows that Olbia, in the final stage of its existence, turned into a barbarian settlement, and it should be considered a site of the Cherniakhiv culture. The absence of finds of coins from the 270s – early 280s up to the time of the reign of Diocletian (284–305) indicates a short period of desolation of the city after the departure of the Roman garrison and local residents (Karyshkovskiy 1968: 178; Kryzhytskyi *et al.*, 1999: 325). A new population, mostly Gothic, appeared soon. Judging by the finds of brooches of Almgren VII type of the second third of the 3rd – early 4th centuries (Fig. 2:3, 4), this happened at the turn of the 3rd and 4th centuries. The appearance of the earliest Cherniakhiv cemetery Kaborha IV on the Olbian periphery dates back to the same time. However, the paucity of finds of type Shelov F amphorae in Olbia (of which there are quite a few in the surrounding settlements) suggests that until the 370s there were few inhabitants in the city, at least in the territory of the Citadel. Probably, at that time the barbarians were primarily interested in the port. If amphorae and other imported goods came from the places of production to the Olbia's port, then almost all of them were soon transported in transit to the near and far Cherniakhiv settlements.

The last rise of the city took place in the Hunnic period and ended together with the Cherniakhiv culture in the first third of the 5th century. Even before the invasion of the Huns (375), the movements of nomads intensified in the steppe. The turbulent situation forced the military-political elite of one of the Gothic associations to restore the Roman Citadel (Fig. 10). After a hundred-year break, Olbia was reborn as a small fortified city, a craft and trade centre inhabited by barbarian Goths. Quite noticeable building activity of that time was registered in the Citadel and in the Lower Town, including its flooded part (Leypunskaya 1988: 80; Krapivina 1993: 41–42). Traces of handicraft production were found in the Citadel: four metallurgical and blacksmith workshops and a pottery kiln. The residents used imported goods. Amphorae, red slip ware and glassware of the Cherniakhiv horizon are dated in total from the second half of the 4th to the beginning of the 5th century.

The revival of the Citadel was accompanied by the restoration of the old defensive system on the borders of the former Olbian state (forts at Kozyrka, Petukhivka, Stanislav and others; Fig. 1). Additionally, new fortresses were built at key points of ancient steppe ways, on rocky river headlands. Fort Horodok was located 80 km upstream of the Southern Buh River from Olbia, fort Oleksandrivka (Aleksandrovka) – 70 km east of the mouth of the Buh River, near the confluence of the Ingulets River with the Dnipro (Magomedov 1987b; 2013). Excavations showed that the Cherniakhiv culture communities there were well acquainted with the practice of fortification. Fort Oleksandrivka (dimensions 190 x 190 m) was surrounded by stone walls with towers (one had a diameter of 11 m and three of 5 m each), there were a moat with a rampart, and scarps carved into limestone rock. The inner space was densely built up with longhouses (their traces were visible in the Google satellite photo). The finds included Cherniakhiv ceramics, amphorae fragments (mainly of Zeest 100 type, also of Charax 33/Zeast 72, Shelov F and E types), some red slip ceramics, an iron shield handle, and so on. The site can be dated to the last third of the 4th – the beginning of the 5th centuries. This example is evidence that the new administration of Olbia was able to rebuild the Roman defences of the Citadel and of surrounding forts.

Dr Michel Kazanskiy has suggested that after the collapse of the Ostrogothic “power of Ermanaric” (375–376), two early state formations (kingdoms) arose on the territory of the Cherniakhiv culture, which were dependent on the Hun leaders. One was located in the forest-steppe zone of Ukraine, the second, ruled by Gesimund, an ally of the Huns, was located in the steppe zone, near the coast of the Black Sea and the Lower Dnipro (Kazanskiy 1997: 182; Kazanskiy and Mastykova 2016: 99). In our opinion, the dense concentration of fortified points on the Lower Buh indicates with high probability the existence of the core of this kingdom here. The favourable location of Olbia, with port and citadel, suggests the stationing of a military-administrative centre of royal power in it.

The final period of the history of this city and its surroundings ended together with the Cherniakhiv culture. Probably, the last groups of Goths left the lands of Eastern Europe together with the Huns shortly after 433, when their leader Attila moved his headquarters from the Northern Black Sea region to the Middle Danube (Zasetskaya 1994: 146). Later on, the descendants of the temporary inhabitants of Olbia had to share the fate of their fellow tribesmen, who went further west and founded the Ostrogothic kingdom in Italy.

REFERENCES

- Ambroz, A. K. 1966. Fibuly yuga evropeyskoy chasti SSSR. *Arkheologiya SSSR. Svod arkheologicheskikh istochnikov* D1–30.
- Buiskykh, A., Twardecki, A. and Novichenkova, M. 2020. Tsytadel rimskoho chasu v Olvii: rezultaty ukrainsko-polskoho proektu. In Y. V. Boltrik (ed.), *Arkheolohichni doslidzhennia v Ukraini 2018*, 124–128. Kyiv.
- Didenko, S. V. 2009. Sosudy gruppy Pontic Red Slip Ware v chernyakhovskoy kul'ture. In K. Myzgin (ed.), *Ostrogothica. Arkheologiya Tsentralnoy i Vostochnoy Evropy pozdnerimskogo vremeni i Epokhi Velikogo pereseleniya narodov*, 64–71. Kharkiv.
- Didenko, S. V. 2014. Khronologiya svetloglinyanykh uzkogorlykh amfor tipov Shelov D i Shelov F (po materialam pogrebal'nykh kompleksov). *Oium* 4: 34–48.
- Didenko, S. V. 2018. *Antychnyi keramichnyi import u Cherniakhivskii Kulturi na terytorii Ukrainy*. Unpublished PhD thesis, Institute of Archaeology of National Academy of Sciences of Ukraine. https://shron1.chtyvo.org.ua/Didenko_Serhii/Antychnyi_keramichnyi_import_u_Cherniakhivskii_kulturi_na_terytorii_Ukrainy.pdf. Last access: 27.10.2024.
- Furmanska, A. I. 1953. Fibuly z rozkopok Olvii. *Arkheologiya* VIII: 76–94.
- Grebennikov, V. B. 2016. *Pamyatniki chernyakhovskoy kultury Nikolaevskoy oblasti (arkheologicheskaya karta)*. Kyiv.
- Grebennikov, Y. S., Grebennikov, V. B. and Magomedov, B. V. 1982. Chernyakhovskie mogil'niki zapadnogo poberezhya Bugskogo limana. In A. V. Gudkova (ed.), *Pamyatniki rimskogo i srednevekovogo vremeni v Severo-Zapadnom Prichernomor'e*, 136–149. Kyiv.
- Gudkova, A. V. and Krapivina, V. V. 1988. Seroglinyanaya goncharnaya keramika Ol'vii pervykh vekov nashey ery. In V. A. Anokhin (ed.), *Antichnye drevnosti Severnogo Prichernomor'ya*, 82–103. Kyiv.
- Gudkova, A. V. and Krapivina, V. V. 1990. *Seroglinyanaya keramika Tiry, Ol'vii i pamyatnikov chernyakhovskoy kul'tury*. Preprint. Kyiv.

- Hayes, J. W. 1972. *Late Roman Pottery*. London.
- Karyshkovskiy, P. O. 1968. Iz istorii pozdney Ol'vii. *Vestnik drevney istorii* 1: 168–179.
- Kazanskiy, M. 1997. Ostrogotskie korolevstva v gunnskuyu epokhu: rasskaz Iordana i arkheologicheskie dannye. In M. Y. Vakhtina and Y. A. Vinogradov (eds), *Stratum + Peterburgskiy Arkheologicheskiy Vestnik*, 181–193. Saint Petersburg–Kishinev.
- Kazanskiy, M. and Mastykova, A. 2016. “Princely” finds and power centers in Eastern European Barbaricum in the Hunnic time. In H. Geisler (ed.), *Wandel durch Migration? 26. Internationales Symposium “Grundprobleme der frühgeschichtlichen im mittleren Donaauraum”*, 85–103. Buchenbach. Arbeiten zur Archäologie Süddeutschlands 29.
- Kozlov, V. I. 1989. Okhrannye raskopki na chernyakhovskom mogilnike v s. Nestoita Odesskoy oblasti. In T. L. Samoylova (ed.), *Arkheologicheskie pamyatniki stepey Podnestrovyia i Podunavya*, 88–92. Kyiv.
- Krapivina, V. V. 1993. *Ol'viya. Material'naya kul'tura I–IV vv. n. e.* Kyiv.
- Krapivina, V. V. 2014. *Ol'viya Pontiiska. Hreko-rymskiy ta piznoantychnyi periody*. Kyiv.
- Krapivina, V. V. and Domzalski, K. 2008. Pozdneantichnaya Ol'viya v svete nakhodok krasnolakovoy keramiki. In V. Y. Zuev (ed.), *Bospor i Severnoye Prichernomor'e v antichnuyu epokhu. Materialy yubileynogo mezhdunarodnogo kruglogo stola, posvyashchennogo 10-letiyu konferentsii «Bosporskiy fenomen»*, 73–81. Saint Petersburg.
- Kryzhytskiy, S. D. 1985. *Ol'viya. Istoriograficheskoe issledovanie arkhitekturno-stroitelnykh kompleksov*. Kyiv.
- Kryzhytskiy, S. D., Buisykh, S. B. and Otreshko, V. M. 1990. *Antichnye poseleniya Nizhnego Pobuzhya (arkheologicheskaya karta)*. Kyiv.
- Kryzhytskiy, S. D., Rusaeva, A. S., Krapivina, V. V., Leypunskaia, N. A., Skrzhinskaya, M. V. and Anokhin, V. A. 1999. *Ol'viya. Antichnoe gosudarstvo v Severnom Prichernomor'e*. Kyiv.
- Leypunskaia, N. A. 1984. Keramika iz zatoplennoy chasti Ol'vii. In S. D. Kryzhytskiy (ed.), *Antichnaya kul'tura Severnogo Prichernomor'ya*, 65–87. Kyiv.
- Leypunskaia, N. A. 1988. Predmeste pervykh vekov nashey ery v Nizhnem gorode Ol'vii. In V. A. Anokhin (ed.), *Antichnye drevnosti Severnogo Prichernomor'ya*, 71–82. Kyiv.
- Leypunskaia, N. A. 2006. Detskoe pogrebenie III–IV vv. iz Ol'vii. In D. V. Zhuravlev (ed.), *Severnoe Prichernomor'e v epokhu antichnosti i srednevekovya. Pamyati N. P. Sorokinoy*, 183–188. Moskva. Trudy GIM.
- Levinskiy, A. N. 1999. Lazo – mogil'nik finalnoy fazy chernyakhovskoy kul'tury v Moldove. *Stratum plus* 4: 121–166.
- Magomedov, B. V. 1979. Kaborga IV (raskopki 1973–1974 gg.). In E. A. Symonovich (ed.), *Mogil'niki chernyakhovskoy kul'tury*, 24–62. Moskva.
- Magomedov, B. V. 1985. Ol'viya i chernyakhovskaya kul'tura. In S. D. Kryzhytskiy and Y. I. Kozub (eds), *Problemy issledovaniya Ol'vii. Tezisy dokladov seminarov*, 47–49. Parutino.
- Magomedov, B. V. 1987a. *Chernyakhovskaya kul'tura Severo-Zapadnogo Prichernomor'ya*. Kyiv.
- Magomedov, B. V. 1987b. Chernyakhovskoe gorodishche u s. Aleksandrova. In A. T. Smilenko (ed.), *Dnestro-Dunayskoe mezhdureche v I – nachale II tys. n. e.*, 26–41. Kyiv.
- Magomedov, B. V. 1991. *Kamenka-Anchekrak. Poselenie chernyakhovskoy kul'tury*. Preprint. Kyiv.
- Magomedov, B. 2001. *Chernyakhovskaya kul'tura. Problema etnosa*. Lublin.
- Magomedov, B. V. 2004. Mohyl'nyk chernyakhivskoi kul'tury Kamianka-Anchekrak. In D. N. Kozak (ed.), *Arkheolohiia davnikh slovian. Doslidzhennia i materialy*, 131–164. Kyiv.
- Magomedov, B. V. 2007. Olviia i varvary v piznoantychnyi period. *Arkheolohiia* 4: 47–54.
- Magomedov, B. V. 2011. Ob amforakh tipa “Delakeu”. In O. V. Sharov (ed.), *Peterburgskiy apokrif. Poslanie ot Marka*, 367–372. Saint Petersburg–Kishinev. Biblioteka Stratum plus.

- Magomedov, B. V. 2013. Horodok – fortetsia na Buzi. Komentar do publikatsii V. I. Nikitina. *Arkheolohiya* 3: 97–99.
- Magomedov, B. V. 2020. Gorod Ol'viya: chernyakhovskiy gorizont. Keramika iz fondov Instituta arkeologii NANU. *Stratum plus* 4: 219–226.
- Magomedov, B. V. 2022. Grebni chernyakhovskoy kul'tury: magicheskaya funktsiya. In M. M. Kazanskiy and A. V. Mastykova (eds), *Druzey medlitel'nyy uhod... Pamyati Olega Sharova*, 281–293. Kishinev.
- Magomedov, B. V. and Didenko, S. V. 2009. Krasnolakovaya keramika v chernyakhovskoy kul'ture. *Bosporskie issledovaniya* 21: 320–349.
- Magomedov, B. V. and Didenko, S. 2012. Red Slip Ware in Chernyakhov culture. In: G. R. Tsetskhladze (ed.), *The Black Sea, Paphlagonia, Pontus and Phrygia in Antiquity. Aspects of archaeology and ancient history*, 171–190. Oxford. British Archaeological Reports International Series 2432.
- Magomedov, B. V. and Gudim-Levkovich, A. N. 2003. Poselenie IV–V vv. u s. Lugovoe v Nikolaevskoy oblasti. In O. M. Gudim-Levkovich and O. V. Serov (eds), *Doslidzhennya z Arkheolohii, istorii, etnografii: pamyati N. M. Kravchenko*, 32–44. Kyiv.
- Peters, B. G. 1986. *Kostoreznoe delo v antichnykh gosudarstvakh Severnogo Prichernomor'ya*. Moskva.
- Rau, G. 1972. Körpergräber mit Glasbeigaben des 4. nachchristlichen Jahrhunderts im Oder-Weichsel-Raum. *Acta praehistorica et archaeologica* 3: 109–214.
- Riley, J. A. 1979. The Coarse Pottery from Berenice. In J. A. Lloyd (ed.), *Excavations at Sidi Khrebish Benghazi (Berenice)*, vol. II, 91–497. Tripoli.
- Shtitelman, F. M. 1952. *Otchet o raskopkakh uchastka "L" v Ol'vii v 1951–1952 gg.* Archive of the Institute of archaeology, National academy of sciences of Ukraine, 1952/10 Unpublished.
- Schultze, E., Magomedov, B. V. and Bujskich [Buisykh], S. B. 2006. Grautonige Keramik des Unteren Buggebietes in römischer Zeit. Nach Materialien der Siedlungen in der Umgebung von Olbia. *Eurasia Antiqua* 12: 289–352.
- Schultze, E., Magomedov, B. V. and Buiskykh S. B. 2009. Sirohlynianyi posud rym'skoho chasu z poselen Olviiskoi khory. In K. Myzgin (ed.), *Ostrogothica. Arkheologiya Tsentral'noy i Vostochnoy Evropy pozdnerimskogo vremeni i Epokhi Velikogo pereseleniya narodov*, 101–151. Kharkiv.
- Schultze, E., Schweigart, F. and Daszkiewicz, M. 2021. Wheel Thrown Pottery in Olbia and Chernyakhov Culture. In M. Meyer (ed.), *Approaching Economic Spaces. Methods and interpretation in archaeometric ceramic analysis*, 183–200, 349–372. Berlin.
- Schultze, E. and Strotsen, B. 2008. Keramik mit ovalen Facetten. Eine Untersuchung zur Chronologie der Chernjachov-Kultur. *Eurasia Antiqua* 14: 267–332.
- Shchukin, M. B. and Shcherbakova, T. A. 1986. K khronologii mogil'nika Dancheny. In I. A. Rafalovich, *Dancheny. Mogil'nik chernyakhovskoy kul'tury III–IV vv. n.e.*, 177–219. Kishinev.
- Slavin, L. M. 1952a. Naslidky arkeolohichnykh doslidzhen Olviiskoi ekspedytsii v 1947 i 1948 rr. *Arkheolohichni pamiatki URSR* IV: 48–58.
- Slavin, L. M. 1952b. *Otchet o rabotakh Olviiskoi ekspedytsii 1952 g.* Archive of the Institute of Archaeology, National Academy of Sciences of Ukraine, 1952/10a Unpublished.
- Sorokina, N. P. 1976. Pozdneantichnoe steklo iz Ol'vii. In N. I. Sokolskiy (ed.), *Khudozhestvennaya kul'tura i arkeologiya antichnogo mira*, 199–209. Moskva.
- Strzheletskiy, S. F., Vysotskaya, T. N., Ryzhova, L. A. and Zhestkova, G. I. 2005. Naselenie okrug Khersonesa v pervoy polovine I tys. n.e. (po materialam nekropol'ya "Sovkhoz nr. 10"). *Stratum plus* 4(2003–2004): 27–277.
- Symonovich, E. A. 1964. Ornamentatsiya chernyakhovskoy keramiki. *Materialy i issledovaniya po arkeologii SSSR* 116: 270–361.
- Symonovich, E. A. 1979. Koblevskiy i Ranzhevskiy mogil'niky okolo g. Odessy. In E. A. Symonovich (ed.), *Mogil'niki chernyakhovskoy kul'tury*, 63–111. Moskva.

- Thomas, S. 1960. Studien zu den germanischen Kämmen der römischen Kaiserzeit. *Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege* 8: 54–215.
- Twardecki, A. and Buiskikh [Buiskeykh], A. 2021. The Cherniakhov Culture in Olbia Pontica in the light of Polish-Ukrainian excavations 2016–2018. *Sprawozdania Archeologiczne* 73(2): 251–273.
- Zasetskaya, I. P. 1994. *Kul'tura kochevnikov yuzhnorusskikh stepey v gunnskuyu epokhu (konets IV–V vv.)*. Saint Petersburg.

The Dnipro Left Bank Forest-Steppe Region in the Hunnic Period

Roman M. Reida^a, Anatolii V. Heiko^b and Serhii V. Sapehin^c

The article deals with the ethno-cultural situation in the Dnipro Left Bank Forest-Steppe region during the Hunnic period based on a consideration of material from the sites discovered in this region, primarily burial sites, that contain finds from the last quarter of the 4th – the first half of the 5th century B.C.

The sites were divided into three groups: 1) burials of nomads with some elements of Cherniakhiv culture; 2) “syncretic” burials of the Cherniakhiv culture with nomadic elements; 3) sites of Cherniakhiv culture. The existence of these sites is caused by contacts between the nomadic world and the Cherniakhiv population, who may be classified as farmers. These active contacts demonstrate different degrees of incorporation of nomads into the Cherniakhiv environment. The description of the burials that belong to these groups is presented in the article. Among them, burial 124 of the Shyshaky cemetery can be mentioned here. Due to the size of the grave and individual finds, this burial complex stands out among the sites of the Cherniakhiv culture and should be classified as belonging to the burials of princes.

Based on archaeological finds, it can be stated that the arrival of the Huns did not cause catastrophic consequences for the population of the Dnipro Left Bank Forest-Steppe region. At that time, it was not a decline, but a development of the culture of the nomads (the Alans) and also the settled population of the Cherniakhiv culture.

KEY-WORDS: the Dnipro Left Bank Forest-Steppe region, the Hunnic period, Cherniakhiv culture, nomads, burials, cemeteries

The Dnipro Left Bank Forest-Steppe area covers the territory of the forest-steppe from the latitude where the city of Kyiv is located in the north to the basin of the Vorskla

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River with its left tributaries – the Kolomak and Merla rivers in the south-east. From the west, the region is bounded by the Dnipro River. During over a hundred years of research of the Dnipro Left Bank Forest-Steppe region, a significant amount of information has been accumulated, which informs us about the process of settling the region in the second half of the 3rd – the first half of the 5th century. The great number of sites of the Late Roman period for this large region of Ukraine is represented by several hundred well-known villages, burial grounds and individual burials, a lot of which are known due to archaeological exploration (Abashyna *et al.*, 2019). Obviously, their number here can be more than a thousand.

The information about the chronology of cultural sites in the region is only available for those where stationary archaeological excavations have been held. So, to illustrate the available sources, it is possible to provide information about the research of sites of the Cherniakhiv culture in the Poltava region (Abashyna *et al.*, 2019). According to recent studies, 356 Cherniakhiv sites have been recorded in this region, but only 15 burial grounds or individual burials and 18 villages and individual objects have been excavated by archaeologists (Fig. 1). These are only 10 per cent of all known ones. A similar situation is also observed in other areas of the Dnipro Left Bank Forest-Steppe region. In addition, a significant part of the results of archaeological research have not been published, and some of the material found during excavations has even been lost.

Based on the study of the main part of the available archaeological sources, many scientists had the opinion that, with the appearance of the Huns in the last quarter of the 4th century AD, sites of the Cherniakhiv culture ceased to exist (either as a result of defeat by nomads or as a result of evacuation, mainly within the borders of the Roman Empire). This process also coincided with information from Late Antique and Byzantine sources, which described the invasion of the Huns as a natural disaster that swept away everything in its path.

If the traditional thesis about the polyethnicity of the Cherniakhiv archaeological culture is taken formally, associating its bearers almost with the East Germanic tribes of the Goths, then we get the opinion that dominated throughout most of the 20th century, and today it is also quite common in historiography. This states that with the appearance of the Huns, the Cherniakhiv culture ceased to exist, and its former bearers migrated to the West or were completely destroyed by newly arrived nomads.

The results of archaeological research on individual burials of the Hunnic period during the 20th century had practically no influence on such opinions. However, the research of the last decades in the territory of the Dnipro Left Bank Forest-Steppe area provides good reasons for changing views on the region's history from the last quarter of the 4th to the first half of the 5th century.

Today, the sites of the Cherniakhiv culture in the Dnipro Left Bank Forest-Steppe region, where materials from the Hunnic era were found, make up an important group

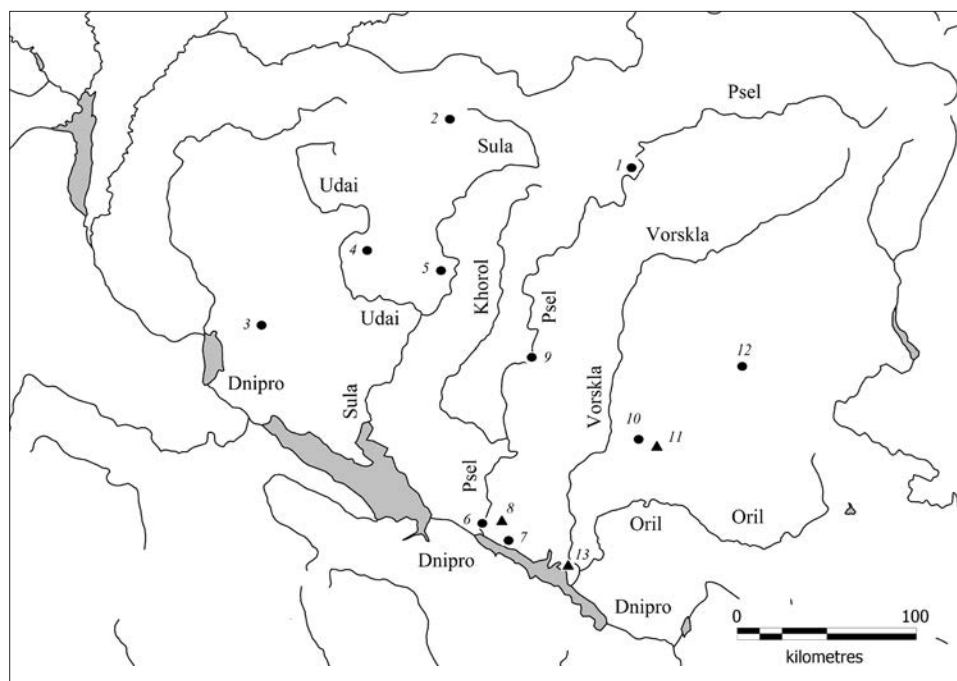


Fig. 1. Map of location of sites of the Dnipro Left Bank Forest-Steppe region in the Hunnic period: 1. Sumy-Sad; 2. Uspenka; 3. Sosnova; 4. Voskresenske; 5. Lokhvytsia; 6. Dmytrivka-3; 7. Kompaniitsi; 8. Lavrykivka; 9. Shyshaky; 10. Kantemyrivka; 11. Storozhove; 12. Viitenky; 13. Yaremenky (Orlyk).
Graphic design: R. Reida.

(Fig. 1). Within the borders of that region, they are distributed quite evenly across the landscape, which, in our opinion, is quite indicative, if not for their number, then at least for their prevalence.

On the other hand, the number of sites containing materials from the Hunnic period is currently significant, even taking into account the total number researched by archaeological excavations. Here we mean burial sites, while the quantity of recorded and researched settlements with such complexes is insignificant. Therefore, in this text, the primary attention is directed to burials of the Hunnic era.

In our opinion, the sites of the Hunnic period of the Dnipro Left Bank Forest-Steppe area can be divided into three types: 1) burials of nomads with some elements of Cherniakhiv culture; 2) “syncretic” burials of the Cherniakhiv culture with nomadic elements; 3) sites of Cherniakhiv culture.

This division, as was already mentioned, is quite relative today, due to the insufficient number of researched sites of the first two groups. This is caused

by the contact between the nomads and the farmers (it is assumed) represented archaeologically by the Cherniakhiv culture. The sites were discovered in the Dnipro Left Bank Forest-Steppe territory in the lower reaches of the Vorskla River, where probably, this “border” passed (Fig. 1).

The first group (sites of nomads with elements of Cherniakhiv culture) includes two sites: a burial ground near the village of Storozhove, located on the right bank of the Kolomak River, and a separate burial ground near the village of Yaremenky near the mouth of the Vorskla River.

The cemetery near the village of Storozhove is a group of barrow burials, some of which (Fig. 2) date to the late Roman period. According to the excavators of the site, the group of nomads, members of which were buried here in ledged pits and catacombs, were associated with the Alans (Luhovyi and Kovalenko 2013: 111–120). The study of the burial ground has been completed, but only a part of the materials has been published so far. As a result of ancient looting, some of the artefacts were apparently lost. However, certain materials found in the burials and published by the authors of the research can help date the complexes: the second half – the end of the 4th century AD, which is the beginning of the Hunnic era. In particular, in the disturbed Burial 1 of Barrow10 in a ledged pit, an assemblage of pottery was found: a Late Antique amphora (type F according to D. B. Shelov 1978: 19; Fig. 2:11), a two-handled jug (Fig. 2:10) and a bowl (Fig. 2:9) of the Cherniakhiv culture, as well as a handmade clay cup (Fig. 2:8) and a miniature dish (Fig. 2:7), and also a spindle whorl plus (Fig. 2:6) a fragment of an iron knife (Fig. 2; Kovalenko and Luhovyi 2016: 132–139).

Another burial (Burial 1) in Barrow 8 of the same cemetery was discovered in a catacomb. According to the excavators, it contained materials that allow us to date it to the end of the 4th century AD, that is, the Early Hunnic period (Fig. 2).

The items from classical antiquity (amphora) and wheel-made dishes of the Cherniakhiv culture in the burials of this small, possibly family group of burials, as well as clothing details (belt buckles) testify that there were active contacts between the nomadic and settled population at the beginning of the Hunnic period in the region of the middle reaches of the Vorskla River (Fig. 2). At the same time, the cemetery itself creates the impression that it one of the nomads.

Another site, classified as belonging to the first group of burials as outlined above, is the grave of a warrior found near the village of Yaremenky, located near the mouth of the Vorskla River (Fig. 3). The complex was discovered accidentally and the finds are now in the Poltava Museum of Local Lore. The detailed circumstances of the discovery and the type of burial structure remain unknown. The material recovered includes (Fig. 3): 1) a single-bladed iron dagger; 2) five fragments of a double-edged sword; 3) an iron knife; 4) fragments of a silver two-piece fibula with returned foot (Fig. 3:1);

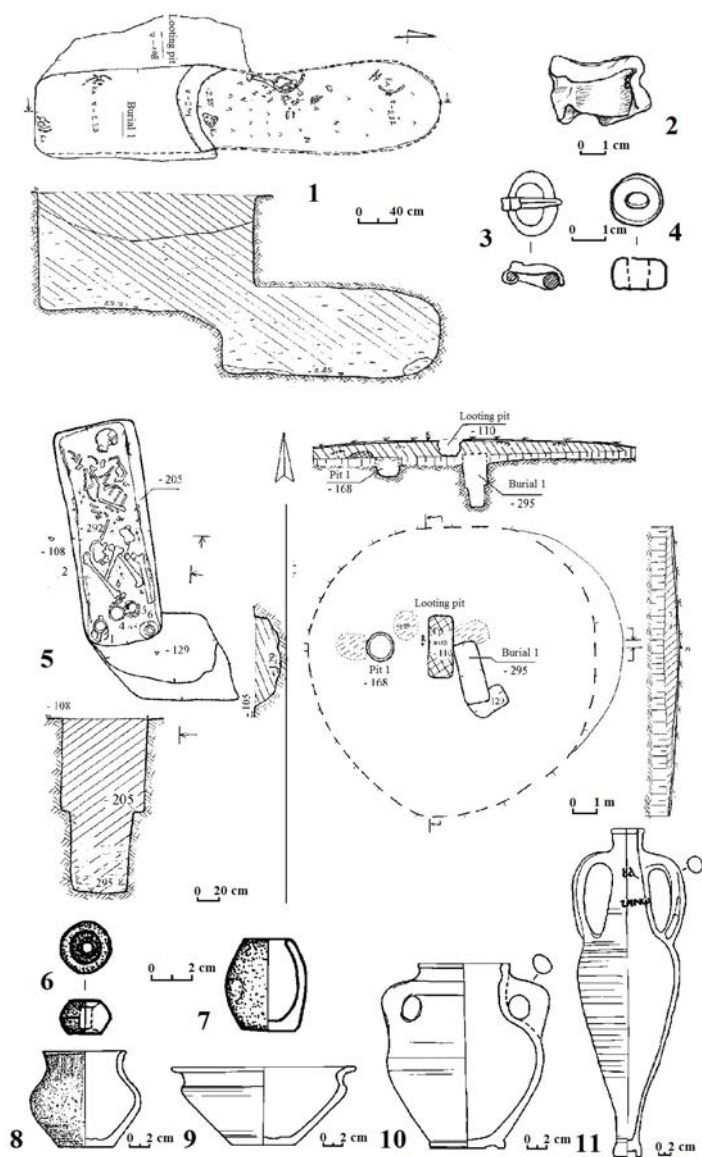


Fig. 2. Storozhove cemetery. 1, 5 – Barrow 8 general plans; 2 – bone; 3 – buckle; 4 – bead; 5 – Barrow 10 general plans; 6 – spindle whorl; 7 – miniature dish; 8 – handmade clay cup; 9 – bowl; 10 – jug; 11 – amphorae; material: 2 – bone; 3 – silver; 4 – amber; 6–11 – ceramics. 1–4 – Barrow 8, the grave.

The end of the 4th century AD (after Kovalenko and Luhovyi 2016: 135–138). 5–11 – Barrow 10.

The end of the 4th century AD (after Luhovyi and Kovalenko 2013: 111–120).

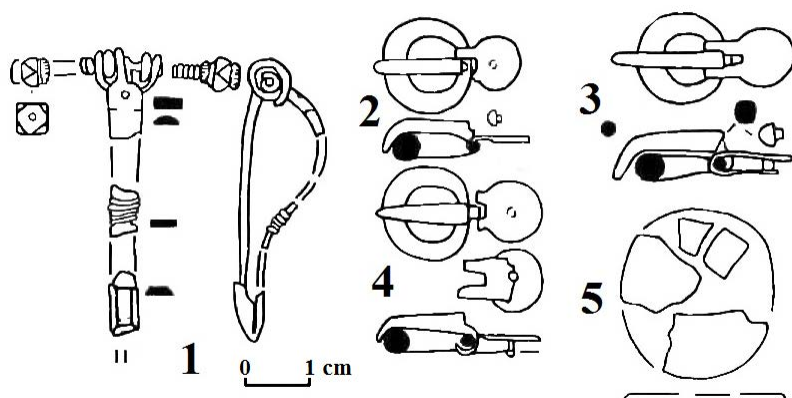


Fig. 3. Yaremenky. Artefacts from a warrior's burial (separate things). The first quarter – the middle of the 5th century AD. 1 – fibula; 2–4 – buckles; 5 – badge (pendant?); material: 1–5 – silver (Levchenko 1988: 43–44). Drawing: H. Nekrasova, after Oblomskiy 2002: 242.

5) three silver buckles (Fig. 3:2–4); 6) fragments of a silver badge (pendant?; Fig. 3:5); 7) sharpener; 8) grindstone (Levchenko 1988: 43–44).

The Yaremenky complex dates to the first quarter – the middle of the 5th century AD, which is the Late Hunnic period. (Levchenko 1988: 43–44; Gorokhovskiy 1988: 18–19).

As we can see, the first group of sites, despite its small number, has important features: nomadic elements (types of burial structures, handmade pottery), weapons and also Cherniakhiv and Roman imports. Located in the south-eastern part of the area of the Cherniakhiv culture, the first group of burials at the same time reflects the contacts of nomads with the settled population.

The second group of sites, which we call “syncretic”, also has a number of features. As in the first group, its complexes contain items produced by Cherniakhiv craftsmen and but also imports from the Roman world. At the same time, the number of purely nomadic elements of material culture is noticeably reduced, and the complex itself looks like a “classical” Cherniakhiv one. At the same time, nomadic elements are preserved, which relate mainly to the method of arranging the burial: interment under a barrow or a burial in a barrow of previous eras, in a catacomb, in an undercut grave or in a ledged pit. This second “syncretic” group contains burials from two sites, the Kantemyrivka necropolis (Fig. 4) and a separate burial site explored near the village of Lavrykivka (Fig. 5).

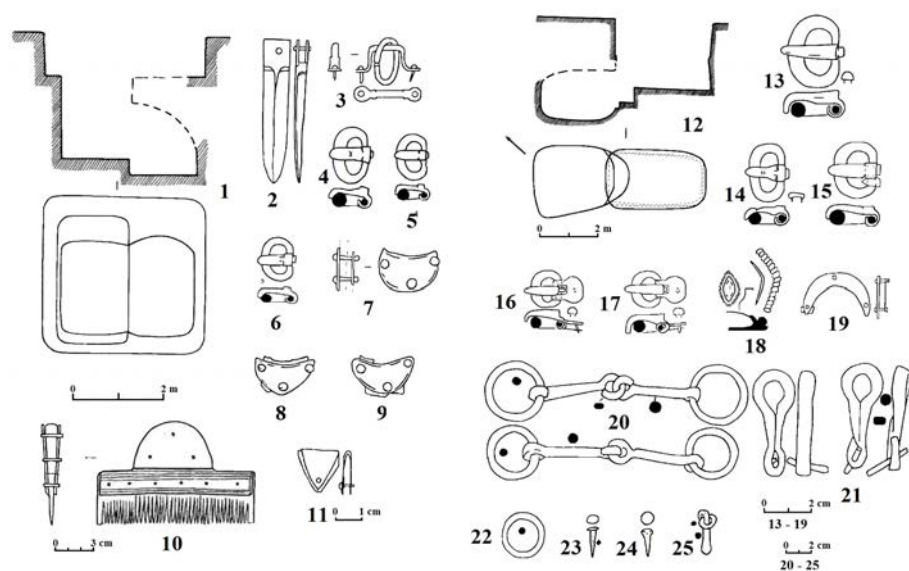


Fig. 4. Kantemyrivka cemetery. 1–11 – barrow 1 (separate things). The last quarter of the 4th – the first third of the 5th century AD. 12–25 – barrow 3 (separate things). The last quarter of the 4th – the first third of the 5th century AD. 1 – barrow 1 general plans; 12 – barrow 3 general plans; 2 – strap-end; 3 – detail (small box; wooden bowl?); 4–6, 13–17 – buckles; 7–11, 19 – belt mounts; 10 – comb; 18 – badge; 20 – horse bits; 21 – metal details; 22 – ring; 23–24 – tacks; 25 – hanger with ring; material: 4–6, 14–17, 19 – bronze; 10 – horn; 2, 3, 7–11, 13 – silver; 18 – gold, almandine; 20–21, 23–25 – iron; 22 – gold. Drawing: M. Rudynskyi, H. Nekrasova, after Oblomskiy 2002: 240–241.

Three barrows of Kantemyrivka were researched in 1924, and in the period after World War II, in 1948, the flat graves of this cemetery were explored. The fact that there are graves without mounds next to the burials in the barrows and the location near a settlement of the Cherniakhiv culture theoretically allow us to attribute the entire complex to the Cherniakhiv culture. Without thinking about the denial of this opinion established in historiography, we propose placing Kantemyrivka into a separate group of syncretic sites.

Three barrows contained burials in an undercut grave (No. 1; Fig. 4:1), a ledged pit (No. 2), and a catacomb (No. 3; Fig. 4:12). These burials included pottery of the Cherniakhiv culture (Abashyna *et al.*, 2019: 104–105). In addition to the late-Sarmatian and Alanic methods of arranging burials and barrow mounds, the studied barrows contained the personal belongings and equipment of nomads.

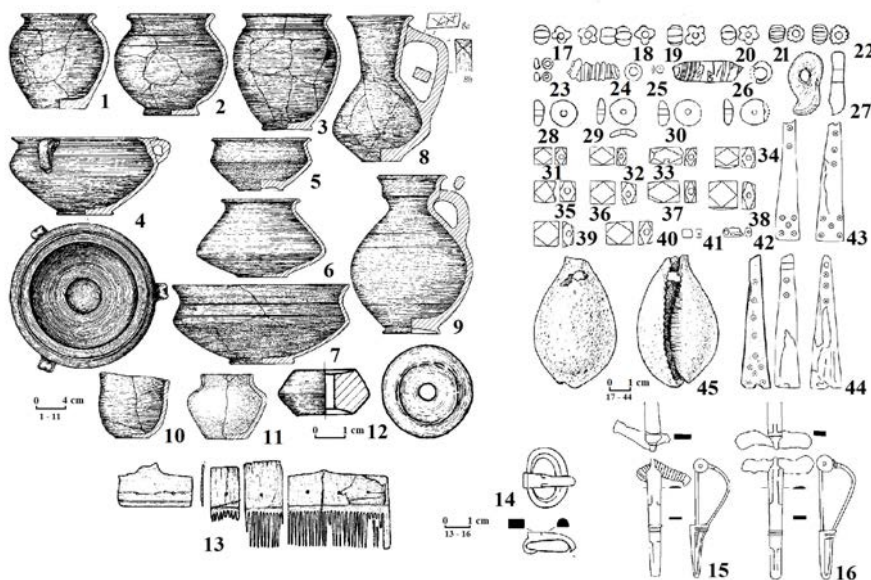


Fig. 5. Finds from the burial in the barrow near the village Lavrykivka. Early Hunnic period.

1–3 – cooking pots; 4–7 – bowls; 8–9 – jugs; 10–11 – beakers; 12 – spindle whorl; 13 – comb; 14 – buckle; 15–16 – fibulas; 17–26, 28–42 – beads; 27, 43–45 – pendants; material: 1–12 – ceramics; 13 – horn; 14–16 – bronze; 17–25 – monochrome glass; 26 – polychrome glass; 28–30 – amber; 31–40 – cornelian; 41–42 – coral; 27, 43–44 – animal bone; 45 – mollusc (*Cypraea pantherina*).
After Suprunenko and Hopkalo 2014.

For example, a game cube and glass tokens, silver shackles and a mount with a ring (probably from a wooden bowl hung on a belt) were found in Barrow 1 (Rudynskyi 1930: 139). Comparable artefacts and their remains were also found in Barrow 2, which was obviously much more heavily looted (Rudynskyi 1930: 139–141): fragments of pottery, glass, a belt buckle and fragments of two iron four-sided rods (according to the traditions of Cherniakhiv accompaniment and equipment). Two pairs of iron horse bits and fragments of other iron harness parts were found in Barrow 3 (Rudynskyi 1930: 144–147).

The remains of accompanying food were also characteristic of nomadic traditions: chickens, roosters and sheep remains in Barrow 1, sheep remains in Barrow 2, sheep and horse remains in Barrow 3 (Rudynskyi 1930).

The barrow burial complex in Kantemyrivka has been in use for some time. The earliest of these burials is in Barrow 2, dated to the second half – the end

of the 4th century; Barrows 1 and 3 are later; they may be dated to the first third of the 5th century (Gorokhovskiy 1988). Accordingly, the group of barrow burials belongs to the Early Hunnic period.

Also ten graves without mounds were explored, including six inhumation burials and four cremations, which is quite common for the graves of the Cherniakhiv culture. The graves without mounds near Kantemyrivka did not contain items which could help date them. Of course, this does not mean the automatic dating of this burial ground group at the time of the creation of barrow burials.

Another researched burial near the village Lavrykivka was in a barrow of the Bronze Age (Fig. 5). Due to objective reasons, it was not possible to examine the structure of the burial, however, the researchers assume the possibility that this was an undercut grave (Suprunenko and Hopkalo 2014: 205).

It was the burial of a female 9–11 – year-old child (Suprunenko and Hopkalo 2014: 220). It had a noticeable number of personal belongings and accompaniment (Fig. 5). Among the ceramics found in the burial, there was a handmade vessel jar-shaped, which apparently served as a cup (Fig. 5). The chronological indicators from this burial allow us to attribute it to the Early Hunnic period (Suprunenko and Hopkalo 2014: 220).

The features of this grave (burial in a barrow, possible construction of a chamber, some objects) allow us to attribute it to the burial of nomads. At the same time, the vast majority of accompanying and individual items from the burial are quite usual for the burial tradition of the Cherniakhiv culture. It is possible that with the increase of the number of researched burials, it is quite possible that in future the first and second groups may be combined into one.

Finally, the “classical” Cherniakhiv sites of the Dnipro Left Bank Forest-Steppe area belong to the third, the most numerous, group of burials with complexes of the Hunnic period.

On our map of the region, there are nine sites of this group (cemeteries of Sumy-Sad, Uspenka, Sosnova, Voskresenske, Lohvytsia, Kompaniytsi, Vyytenky, Shyshaky; and the settlement Dmytrivka-3). All the mentioned sites, except for Dmytrivka-3, have burials of the pre-Hunnic period, and the complexes of the Hunnic period are not quantitatively predominant. Sites with Hunnic materials of the Cherniakhiv culture are recorded throughout the Dnipro Left Bank Forest-Steppe region. Their relatively small number is mainly explained by the fact that only a few of them have been excavated.

We will not discuss all the listed sites in detail. They are described in a recently published article by O. V. Petrauskas “The Cherniakhiv Culture and the Huns” (Petrauskas 2021). The characteristic features of burials of the Hunnic era in the Cherniakhiv cemeteries are: 1) the variety of constructions of burial structures and their orientation relative to the cardinal points; 2) availability of Roman imports; 3) different grave equipment; 4) the appearance of new features; 5) burials of princes.

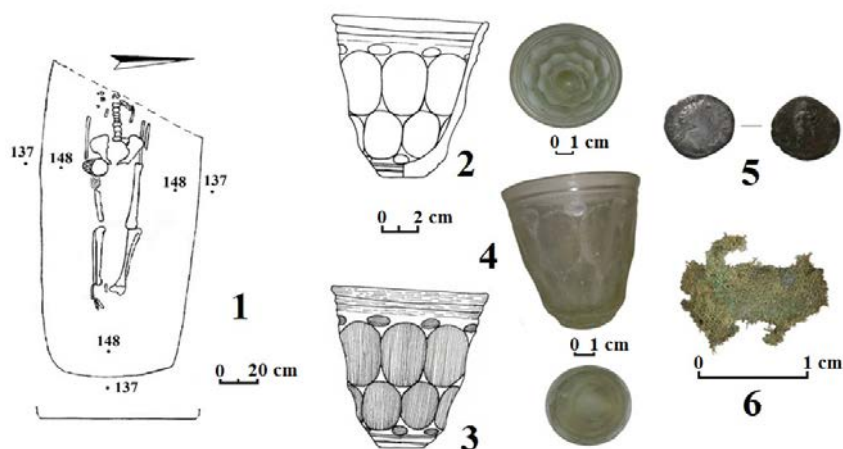


Fig. 6. Shyshaky cemetery of the Cherniakhiv culture. Burial 39. The first half of the 5th century AD.
1 – general plan; 2–4 – glass beaker; 5 – silver coin (denarius of the Emperor Marcus Aurelius);
6 – fragment of silk. Graphic design: R. Reida.

In our opinion, the most interesting site of the Hunnic period, according to the published results and personal participation in the research, is currently the Shyshaky cemetery of the Cherniakhiv culture, and it will therefore be discussed in more detail below. The cemetery has been researched since 2009, and during this time 156 burials (inhumations and cremations) have been discovered. All of the burials that contained chronological indicators date from the middle of the 4th century AD. Some of them date back to the Hunnic era. Among them, graves 39, 112, 115, and 124 should be mentioned. It is interesting that each of these burials has features that distinguish them from the others, and they are practically unique.

BURIAL 39 OF THE SHYSHAKY CEMETERY (FIG. 6)

The buried woman, aged 25–35, was placed in a grave oriented east-west. The skeleton is stretched out on the back, with the head to the west (Fig. 6:1). The western part of the grave was destroyed by a trench. The burial was accompanied by a transparent glass beaker with polished ovals on it (Fig. 6:2–4). A direct analogy of the beaker is an item from the Setvedt cemetery (Norway), dated by E. Straume to the D2 level

of the Scandinavian chronology. In our opinion, the beaker from burial 39 can be dated to the first half of the 5th century. Under the bottom of the beaker there was a coin – a denarius of Marcus Aurelius (Fig. 6:5), with a fragment of fabric preserved on it due to the corrosion products (Fig. 6:6). The coin and a beaker were found in the right hand of the buried woman. We think that such an arrangement is not accidental and obviously it is according to the belief in the journey to the land of the dead. The coin can be interpreted as a “payment to Charon”, and the glass beaker – as participation in an afterlife feast (Reida *et al.*, 2014).

BURIAL 115 OF THE SHYSHAKY CEMETERY (FIG. 7)

The male burial was oriented with the head in the western direction (Fig. 7:1). It contained: three clay wheel-made bowls (Fig. 7:2–3, 6), a wheel-made pot (Fig. 7:4) and a jug (Fig. 7:7), an ornamented glass beaker (Fig. 7:5, 10), two belt buckles (copper and silver; Fig. 7:8–9), the remains of an antler three-layered comb. Such a complete set of accompaniments and individual items in burials oriented to the western direction is unique. At the same time, this set is quite typical for burials of the Cherniakhiv culture, oriented with the head in the northern direction.

In our opinion, the features of burial 115 may indicate the further development of culture, namely the process of consolidation of the funeral rites (in some inhumation burials). In our case, this process took place in the final phase of the existence of the Cherniakhiv culture, which was already in the Hunnic era. The discovered belt buckles with the remains of leather allowed us to make a possible graphic and natural reconstruction of the belts of the Cherniakhiv culture. Such a find and record were made for the first time in the history of research on Cherniakhiv burials.

The discovered Roman glass beaker (Fig. 7:5, 10) with ornaments is of no less interest. It is decorated with drops of blue and red glass, which is also unique (at least in the area of the Cherniakhiv culture) because such things are almost always ornamented with drops of only blue glass. The closest analogies allow us to date the beaker to the end of the 4th – beginning of the 5th centuries AD (the early Hunnic period; Reida *et al.*, 2016).

BURIAL 112 OF SHYSHAKY CEMETERY (FIG. 8)

The burial of a woman aged 18–20 was oriented with her head in the western direction (Fig. 8:1). An interesting physiological feature of the buried woman was that she had 34 teeth (18 on the upper jaw and 16 on the lower one).

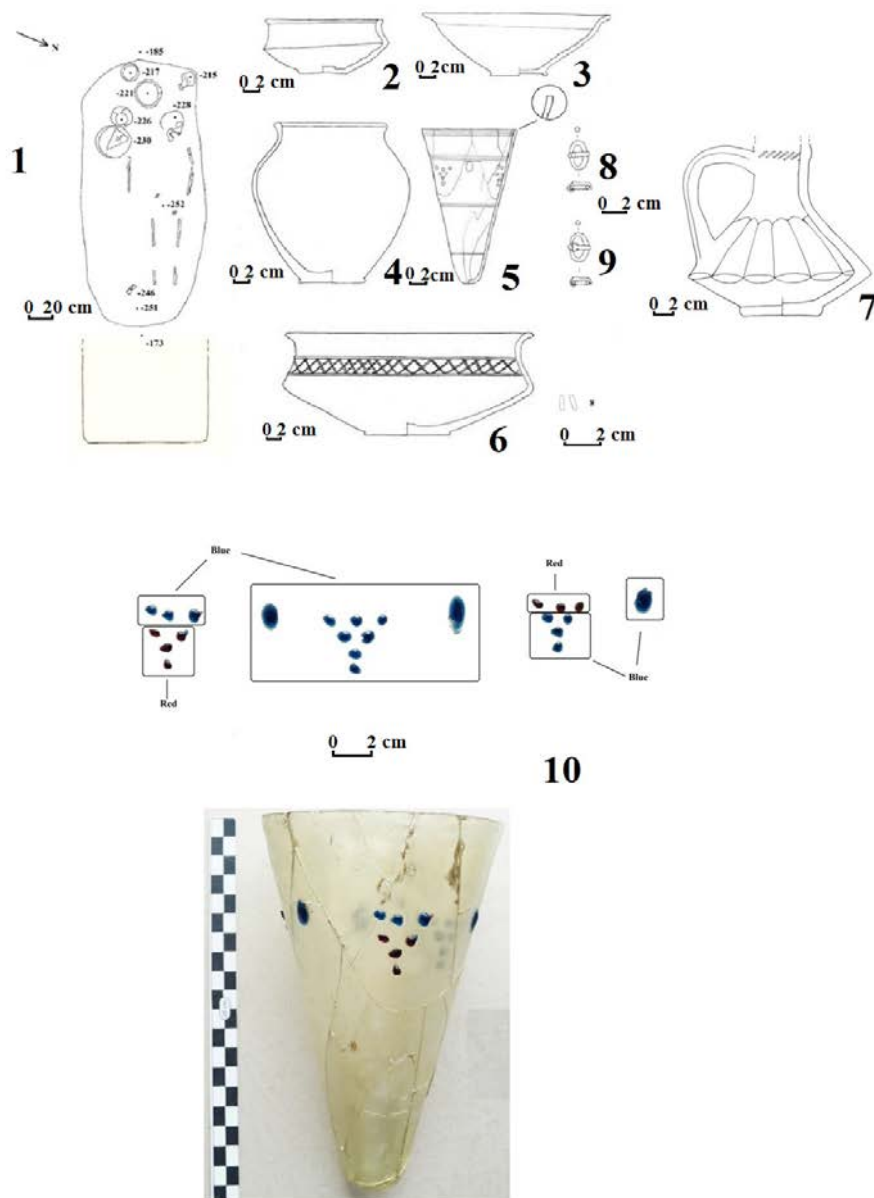


Fig. 7. Shyshaky cemetery of the Cherniakhiv culture. Burial 115. The end of the 4th – the beginning of the 5th century AD. 1 – general plan; 2, 3, 6 – bowls; 4 – pot; 5 – conic beaker; 7 – jug; 8–9 – waist buckles; 10 – the decoration from glass conic beaker drops of the cup (red, blue); material: 2, 3, 4, 6, 7 – ceramics; 5, 10 – glass; 8 – silver; 9 – copper alloy. Graphic design: R. Reida and A. Heiko.

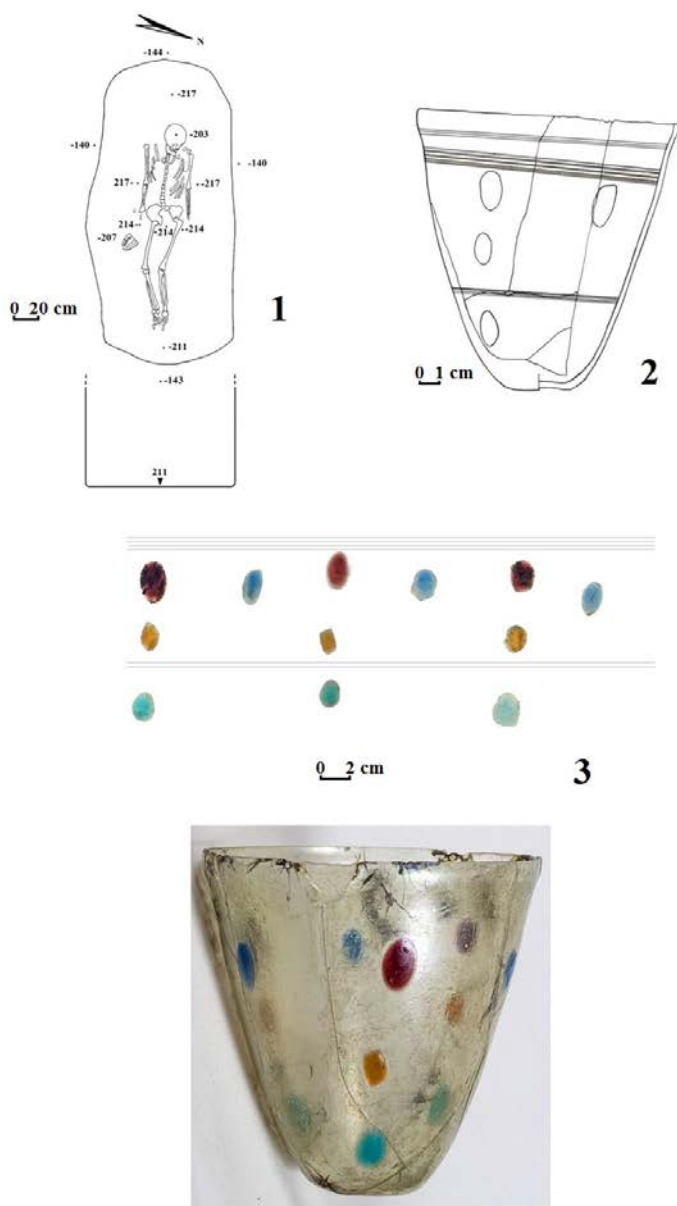


Fig. 8. Shyshaky cemetery of the Cherniakhiv culture. Burial 112. The end of the 4th – the beginning of the 5th century AD. 1 – general plan; 2 – glass beaker “Shyshaky-112 type”; 3 – the decoration from glass beaker drops of the cup. Graphic design: R. Reida and A. Heiko.

An ornamented glass beaker (Fig. 8:2) with a volume of 0.6 litres was found near the right hand of the buried woman. It was decorated with multi-coloured oval-shaped glass drops of light brown, light blue, intense blue, and burgundy-red colours (Fig. 8:3). The polychromy of the coloured drops is more characteristic for the products of the Western Roman provincial workshops. The nature of the ornamental scheme and also the quality may indicate a relatively late time of its production. The lack of direct analogies allows us, in our opinion, to define a new type of glass beaker with coloured drops: “Type Shyshaky-112” (Fig. 8:2–3).

Obviously, burial 112 from the Shyshaky cemetery belongs to the group of late burials. The lack of direct analogies for the polychrome beaker complicates the dating of the complex. However, it seems quite acceptable that the complex belongs to the Hunnic period, with the chronological limits of the end of the 4th – the first half of the 5th centuries AD.

In addition to this, burial 112, as well as burials 39 and 60 (the last one dated back to the second half of the 4th century), have another interesting feature – placing glass and clay beakers in the right hands of the buried people.

These three burials, dated to the Hunnic period, show us both the continuation of the previous burial traditions of the Cherniakhiv culture and the appearance of some new features. Among them there is the possible process of consolidation of the rites of inhumation burials, oriented in the western and northern directions (115); placing a cup into the right hand of the dead (Burials 39 and 112) and a “payment to Charon” (39). We should also mention that Roman glass beakers were found in all three burials, which may indicate active contacts with the provinces of the Roman Empire (trade and exchange or military ones).

Mention should also be made here of Burial 124 of the Shyshaky cemetery. Its detailed publication is yet to come, but the preliminary results allow us to come to some conclusions. First of all, they relate to possible changes in Cherniakhiv society at the beginning of the Hunnic era. In our opinion, Burial 124 belongs to the group of burials of princes. This not only applies to the grave goods, individual items and their fragments found in the burial (which we do not mention in this article) but also because of the parameters and shape of the burial structure itself, the scheme of which, in comparison with the scheme of Burial 112, we present here (Fig. 9).

During the research of the Dnipro Left Bank Forest-Steppe area in the Hunnic period, we can note the existence of both of the previously-mentioned processes here (intercultural contacts, the development of the Cherniakhiv culture, etc.) and the appearance of new features (sites of the first and second groups). Famous sites and complexes of the Hunnic period are located within the region, occupying most of the area of the Cherniakhiv culture before the Hunnic period. Active contacts between the settled population of the Cherniakhiv culture and the neighbouring

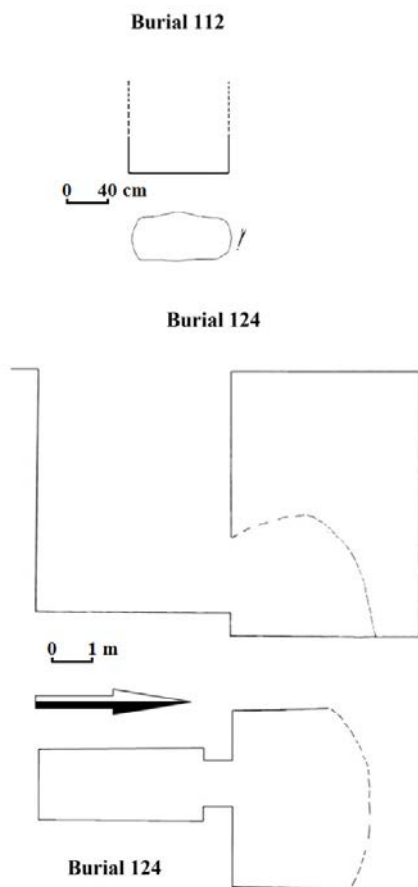


Fig. 9. Schematic comparative drawing of burials 112 and 124 of the Shyshaky cemetery of the Cherniakhiv culture. Graphic design: R. Reida and A. Heiko.

nomadic tribes are evidenced in the three groups of sites that we have proposed. These groups demonstrate different degrees of incorporation into the Cherniakhiv cultural environment. At the same time, at the Cherniakhiv sites of this region in the Hunnic period, features of the former nomadic environment are found, while there are practically no materials clearly related to the ancient Germans. The importing of Roman goods is also characteristic of the Hunnic period of the Dnipro Left Bank Forest-Steppe region, which indicates contacts with the provinces of the Roman Empire (exchange or military ones).

In our opinion, it is possible to consider the Vorskla River basin and the Psel River basin as a kind of frontier within the territory of the Dnipro Left Bank Forest-Steppe during the Hunnic period. First of all, it means contacts between two cultural environments – the settled population of the Cherniakhiv culture and nomads (according to Owen Lattimore; Chornovol 2015: 50). Such contacts are clearly visible in the proposed groups of burial sites along the line south-east – north-west and determine the originality and further development of the Cherniakhiv culture in the Hunnic era. Examples of such evolution are individual burials in the Shyshaky cemetery and other sites of the region (Viytenky). These groups of sites demonstrate the process of incorporation of nomads into the environment represented by the Cherniakhiv culture, which took place in the Hunnic period.

These sites do not demonstrate the catastrophic consequences of the arrival of the Huns for the Cherniakhiv culture of the region. The culture continues to exist and, moreover, even develops. Perhaps this is connected not only with the relations of the nomads (the Alans) with the settled population, but also it depends on the components of the culture itself, a significant part of which were probably people from a nomadic environment. Also, the possibility of the participation of the settled barbarian population in the invasions of the Huns of the territory of the provinces of the Roman Empire cannot be excluded entirely (Reida *et al.*, 2021).

REFERENCES

- Abashyna, N. S., Magomedov, B. V. and Reida, R. M. 2019. *Pamiatky cherniakhivskoi kultury Poltavskoi oblasti*. Kyiv, IA NAN Ukrainy.
- Chornovol, I. 2015. *Komparatyvni frontyry: svitovyi ta vitchyzniani vymir*. Kyiv, Krytyka.
- Gorokhovskiy, E. L. 1988. Kantemirovskie kurgani na Poltavschchine i problema drevnostei rannegunskogo perioda na yuge Vostochnoi Yevropi. *Okhrana i issledovanie pamyatnikov arkheologii Poltavshini*, 18–19. Poltava.
- Kovalenko, O. V. and Luhovyi, R. S. 2016. Piznosarmatski pokhovannia Storozhivskoho mohylnya (za materialamy rozkopok 2012 r.). *Starozhytnosti Livoberezhnoho Podniprov'ia–2016*, 132–139.
- Levchenko, D. Y. 1988. Pogrebenie voina 5 v. n.e. u s. Yaremenki. *Okhrana i issledovanie pamyatnikov arkheologii Poltavshchiny*, 43–44. Poltava.
- Luhovyi, R. S. and Kovalenko, O. V. 2013. Alanske pokhovannia 4 st. na richtsi Kolomak. *Starozhytnosti Livoberezhnoho Podniprov'ia–2013*, 111–120.
- Oblomskiy, A. M. 2002. *Dneprovskoe lesostepnoe Levoberezhie v pozdnerimskoe i gunnskoe vrem'ya (seredina 3 – pervaya polovina 5 v.n.e.)*. Ranneslavyanskiy mir, v. 5. Moskva, Nauka.
- Petrauskas, O. V. 2021. Cherniakhivska kultura ta huny (za materialamy arkheolohichnykh pamiatok Ukrainy). *Arkheolohiia* 2: 15–32.
- Reida, R. M., Heiko, A. V. and Sapiehin, S. V. 2014. Pokhovannia z “platoi Kharonu” z Shyshatskoho mohylnya cherniakhivskoi kultury. *Arkheolohiia* 1: 97–103.
- Reida, R. M., Heiko, A. V. and Sapiehin, S. V. 2016. Pokhovannia 115 Shyshatskoho mohylnya zi sklianyh ornamentovanyh kubkom. *OIUM* 5: 20–28.

- Reida, R. M., Heiko, A. V. and Sapiehin, S. V. 2021. Sklianyi kubok z eklektychnymy oznakamy z pokhovannia 112 Shyshatskoho mohylnya. *Arkheolohiia* 4: 95–109.
- Rudynskiy, M. 1930. Kantamyrivski mohyly rymskoi doby. *Zapysky Vseukrainskoho arkeolohichnoho komitetu* 1: 127–158.
- Suprunenko, O. B. and Hopkalo, O. V. 2014. Divochy kostium finalnoho etapu cherniakhivskoi kultury (za materialamy pokhovannia v Lavrykivtsi). In H. Yu. Ivakin (ed.), *Vid venediv do Rusi. Zbirnyk naukovykh prats na poshanu doktora istorychnykh nauk, profesora Denysa Nykodymovycha Kozaka z nahody yoho 70-littia*, 205–224. Kyiv–Kharkiv, Maidan.
- Shelov, D. B. 1978. Uzkozorlye svetloglynyane amfory pervykh vekov nashey ery. Klassifikatsiya i khronologiya. *KSIA* 156: 16–21.

Olbia in the Hunnic Time. A Historical Perspective

Alfred Twardecki^a

In this paper, the author presents the historical background of the period of functioning of the site of Olbia in the Gothic and Hunnic periods. He presents the most important studies on the Goths and Huns in recent decades, reconstructs the course of the Gothic wars (third to sixth centuries) and analyses selected sagas of Germanic mythology. On the basis of this and using the results of the recent archaeological excavations, he formulates the thesis that Olbia, functioning in the Gothic period from the 3rd/4th centuries to the beginning of the 5th century AD, could have been an important administrative centre of pagan Goths who actively fought against their Christianized brethren. He also hypothesizes that it can be identified with the land of Oium (Olbiūm) and with the *Árheimar á Danparstæðum*, the capital of *Reiðgotaland*, mentioned in the oldest Germanic sagas.

KEY-WORDS: *Árheimar*, Attila, Cherniakhiv culture, Goths, Huns, Istria, Oium, Olbia Pontica, Roman Empire, Tyras, Jordanes, Ammianus Marcellinus

INTRODUCTION

The story of Olbia in the Hunnic period is a new chapter in the history of this archaeological site. All previous publications – both archaeological, historical and philological – dealing with this region and era have not considered the existence of ancient Olbia as a large settlement centre after 375 (the date of the invasion of the Huns and the death of Hermanaric). This is a first and very preliminary attempt to review our historical knowledge with this in mind. Already during the initial search of the sources, it turned out that literary sources are extremely scarce for Olbia itself and the nearby areas in the period of interest to us. Firstly, it is a period beyond the scope of the work of Ammianus Marcellinus – the last serious historian of the ancient period. The work

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of Jordanes, which is a very important source for the history of Goths, could be only partly useful as it primarily concentrates on the history of the Goths in the context of Roman, not Hunnic, history. What's more, while quite a lot of information about the Goths can be found, information about the Huns appears much less often in late antique texts. In addition, Olbia and the surrounding area fell outside the direct control of Rome relatively early (that is, at the beginning of the second half of the 3rd century), and therefore there are virtually no literary references to Olbia from this period. It is therefore necessary to re-read the most important literary sources from between the third and sixth centuries, considering the new information obtained during the recent archaeological excavations in Olbia. This work turned out to be very tedious and not very fruitful, although necessary to obtain a broader picture of the role of Olbia – or rather the Gothic settlement functioning in its place during this period. Some of the conclusions based on this new examination result from the historical context reading between the lines and certainly must be carefully verified at further stages of research. Nevertheless, even if not all conclusions turn out to be ultimately correct, at this stage of research, it is worth presenting the widest possible spectrum of them to subject them to a wide criticism of specialists from various fields. Therefore, it seems necessary to divide the article into two parts. The first one will discuss the most important historical events covering the period of the so-called Gothic Wars (261–554). In the second, I will try to summarize the collected information and draw conclusions about the history of Olbia itself.

HISTORICAL BACKGROUND

Research history

The literature on the history and archaeology of the Goths is enormous and there is no space here to discuss it in full. Nevertheless, I feel obliged to present the studies on which I based the picture of Gothic history presented below, with particular emphasis on the areas on the Black Sea and contacts with Rome. The works of two writers in particular and the discussion between them have had an important influence on the course of the history of the Goths presented below. The first are the works of Michael Kulikowski of Pennsylvania State University (Kulikowski 2006) the second is Peter Heather of King's College London (Heather 1991; 2005; 2010). Especially inspiring was the evolution of Heather's position – from an initial critique of Jordanes to a reluctant retraction of some objections under the influence of archaeological data.

I cannot fail to mention outstanding Polish researchers of the history of the Goths, whose works have shaped my image of the Goths while still a student or just after

graduating. This is a monograph by an prominent Polish historian from Wrocław, Professor Tadeusz Kotula (1994), and a very inspiring work on the Gothic War of Claudius II by Professor Jerzy Strzelczyk from Poznań (Strzelczyk 1984).

Russian- and Ukrainian-language literature on the Goths is equally extensive and interesting. Here, however, most articles and books summarize the results of excavations conducted – mainly in Ukraine – at Cherniakhiv culture sites. Nevertheless, some of them contain extremely interesting synthetic summaries that go beyond a simple account of excavations or analysis of excavation material – such as, for example, the publications of Boris Magomedov or Oleh Petruskas. This applies too to those included in the present volume of *Archaeologia Polona*. Magomedov's thesis is particularly interesting here, as he sees Gothic Olbia as the seat of one of the Gothic "princes" (Magomedov 2020 and his paper published in this volume). In a sense, some considerations presented below are a (significant) modification and development of this thesis. The most interesting attempt to broaden the history of the Goths was made by Vera Budanova from Moscow (1990). This is a very useful publication summarizing the analysis of ancient written sources and presenting Western literature on the Goths until 1990. There are a number of interesting reflections by the author in that text, but they are not related to the topic of the article. Budanova is also a supporter of the multi-ethnic nature of the state of the Goths and Huns, and a supporter of the thesis that the realm of Hermanaric was a confederation of local Germanic chiefs under the leadership of Hermanaric, rather than a true state entity. The book by Mark Shchukin (2005), a representative of the Saint Petersburg school of historians, presents a comprehensive and extremely captivating picture of the history and culture of the Goths. The author, an archaeologist, begins his narrative with considerations about the beginnings of the Wielbark culture and ends with the fall of the last independent Gothic states in Crimea after its conquest by the Ottoman Turks and the forced resettlement of the remnants of the population in 1799 by Catherine II. The book had a great influence on the formation of views on the history of the Goths among Russian-speaking researchers. Shchukin accepts the thesis about the multiculturalism of the Goths and devotes a lot of attention to problems related to the synchronization of archaeological data and written sources. His vision of Gothic culture is indeed very interesting. The book was published before Kulikowski's key publication and although it sometimes contains similar doubts, Kulikowski's publication, in my opinion, delve deeper into the issues. Another useful book on the Goths published in Russian is the doctoral thesis of Irina V. Zin'kovskaya (2010). Zin'kovskaya's publication is devoted to the analysis of mainly written sources about the phenomenon of the Hermanaric state. Archaeological sources are quoted there basing on secondary publications only. Nevertheless, it is an excellent place to get acquainted with the Russian- and Ukrainian-language literature on the subject until 2010.

One of the most important contentious issues between researchers of the history of the Goths and the Migration of Peoples in general was the question of the ethnogenesis of the tribes that had been wandering through the area between the Baltic and Black Seas since the 3rd century. The point of contention centred on assigning the main role to the Germanic tribes in these events (Heather is perhaps the most prominent contemporary representative of this position) as opposed to considering a broader spectrum of peoples participating in the migrations. In the latter case, Kulikowski is probably the most important representative of this position (Kulikowski 2009), which was manifested, among other things, in his replacement of the term Germans with the term “barbarians”. I am closer to Kulikowski’s position on this point, and I am convinced that both the character of the “Gothic” and “Hun” states were multi-ethnic in practice with only a leading role of both mentioned ethnicities, who were probably minorities (Kulikowski 2010: 279; despite criticism by some other scholars, for example Ward-Perkins 2009). This is also evidenced by objects of material culture found during our excavations. The results of the work on the R-23 excavation brought both artefacts clearly identified with the Cherniakhiv and even Wielbark culture, together with a lot of imports from the Black Sea and Mediterranean basins, as well as local products (Twardecki and Buiskikh 2020 – see also the papers presented in this volume).

The discussion between Kulikowski and Heather on at least some of the causes of the fall of the western part of the Roman Empire was also extremely inspiring for the construction of my hypotheses. Kulikowski strongly criticizes Heather’s thesis about the invasion of the Huns as one of those factors leading to the collapse (Kulikowski 2006: 206; cf., Sinor 1990: 177). I share the opinion that the invasion of the Huns had a great impact on the fate of the Roman Empire and the fall of its western part. Anyway, not wanting to make a final judgment here and go into too detailed source analysis (also because the political context of the discussion about the role of the Goths goes back even to the ideas of Gustaf Kossinna), which would probably consume the whole predefined by the editors frame of the volume for this article, I feel the need to define my position in this dispute due to the historical and cultural context of the hypotheses presented below. There is a much more modest body of literature devoted to the Huns and the history of their almost one hundred years of dominance east of the Danube and the Rhine. Here, undoubtedly, Heather’s works quoted above retain their value as well as general and encyclopaedic texts such as Sinor (1990) or multi-authored publications, such as that edited by Michael Maas (2015) as well as the earlier but still fundamental posthumous publication of the manuscript of Otto J. Maenchen-Helfen (1973 or extended German translation: 1978). In recent years Hyun Jin Kim of Melbourne (Kim 2013; 2015; 2017) has shown a quite new perspective in his publications. He vehemently rejects the image of the Huns as savage barbarians who became civilized through contact with the Germans and Romans.

He claims that the Huns reached a refined level of political culture during their migration through Central Asia and were far from passive recipients of the splendour of Western civilization. Moreover, he states that the culture of medieval Europe owes much to the achievements of Hunnic culture. This iconoclastic thesis caused a wide resonance in the research community researching both late antiquity and the Middle Ages.

One of the fundamental controversies in the study of the history of the Huns is their origin and ethnic identification. While the question of whether the Huns were descendants of the Xiongnu is not of major importance for our considerations about Olbia, the political organization of their state is. Kim (2015: 46) for example, believes that the term “Huns” originally had a political, not ethnic, context and meant some type of confederation repeating the older Maenchen-Helfen hypothesis (Maenchen-Helfen 1959: 237). The multi-ethnic nature of the Hun state also seems to be confirmed by recent genetic research (Gnecchi-Ruscone *et al.*, 2022). Therefore, I assume that, like the state of the Goths, the state of the Huns was also multi-ethnic. Archaeological (Godłowski 1991 – if we follow the interpretation of Harmatta 1951; László 1951) and written (Priscus – Given 2014) sources also seem to indicate that the system of political power in the Huns’ state was based on specific principles of vassal relationships.

Historical timeline (235–554)

The beginning of the so-called Gothic Wars is usually set at 248, when the Goths first crossed the Danube under Cniva. The Romans made the first contacts with the Goths, however, at least more than 10 years earlier (Strzelczyk 1984: 87; Kotula 1994: 71), possibly due to them causing a threat to Olbia in the last years of Alexander Severus’ (222–235). After the assassination of Alexander Severus, the next Emperor (Maximin Trax) agreed to support them with a subsidy due to the famine prevailing among the Goths. Emperor Decius withheld this aid and this was the pretext for the invasion led by Cniva. The last chord of the Gothic Wars is the campaign conducted during the reign of Justinian I in 535–554. It was intended to recapture the whole of Italy and although it was initially successful, in 568 the Byzantines lost control of a large part of the peninsula because of a successful invasion by the Lombards. As we can see, the struggle of the Romans with the Goths lasted about 300 years and ended in the victory of the latter, at least in the western part of the former Empire.

The first armed clash between the Romans and the Goths took place during the reign of Emperor Decius and ended with a rather unexpected rout of the Roman army in the battle of Abritus (251). The emperor himself, his son and successor Herennius Etruscus, and a large part of the Roman military elite died in this battle. These events defined the fate of the territories beyond the Danube for the next 200 years. Rome lost direct control over them, and they became an area of intense Gothic colonization. This included at Olbia itself.

After twenty years of minor raids into Roman territory, the next act of the drama is the great invasion of Rome by the Goths in 268. In this period appears a new quality in Gothic forces – seaborne raids (Zosimus 1971–1989, 1: 31 ff). This is especially interesting in the context of Olbia, because the Gothic fleet should have had their naval bases, however, Zosimus informs us that the Bosporan Kingdom was the probable source of the naval skills obtained by the Goths (Zosimus 1971–1989, 1: 32 ff). This time, however, the decisive battle of Naissus ended with the rout of the Goths. Here, the connection with the history of the Gothic settlement in Olbia is not so obvious and, perhaps, we are dealing with an accidental synchronism. The battle of Naissus, although it did not undo the consequences of the defeat at Abritus, stopped the larger invasions of the Goths on Rome for 100 years. At that time, between the Danube and the Dniro, settlements of the Cherniakhiv culture flourished, including in former Olbia.

The strategic situation in the areas east of the Danube changed dramatically in 375, when the Huns rapidly subjugated first the Alans and then the Goths – first Greuthungs and then the Thervings (Ammianus Marcellinus 1935–1940, 31: 3; Zosimus 1971–1989, 4: 20 ff; Philostorgius 1981, 9: 17; Kulikowski 2006: 124–128). During the fights with the Huns, Hermanaric died, his large state was crushed, and thousands of refugees appeared on the border of the Roman Empire on the Danube.

Let's pause for a moment on the sequence of events at this point. The question arises: what role could a possible settlement of the Cherniakhiv culture in Olbia have played at that time? And why, after a significant part of the Goths had fled to the west from the Huns, did this settlement, as we know from archaeological data, not collapse? Not only that, but to judge from the increase in imported pottery, it experienced a period of relative prosperity. Was it because Olbia was located at an important crossroads of land and water routes? (Fig. 1).

Modern researchers count the number of Gothic refugees at about 20,000 warriors with 100,000 civilians (Heather 2005: 145–507) or even only 90,000 people (Cambridge Ancient History 1998: 98). Valens agreed to transport them to the Roman side of the Danube, which started the course of events that led to the fall of Rome and what Ammianus Marcellinus predicted in bitter words (Ammianus Marcellinus 1935–1940, 31: 4).

The situation very quickly got out of control of Emperor Valens. The Goths, led by Fritigern, rebelled and brought in reinforcements from the east bank of the Danube, by this time out of Roman control. The fate of Rome and the Goths was decided in the battle of Adrianople, where Valens fell and the Roman army was smashed to ashes (Ammianus Marcellinus 1935–1940: 31,13). In the eastern part of the empire, there was an interregnum in the country, mass executions of previously settled Goths



Fig. 1. Olbia at the crossroads of the water and land routes by M. Maciejczyk. Source of map: ©Google Maps.

began – both soldiers and civilians. The situation was stabilized only by Theodosius I. In 382, peace was concluded with the Goths, which defined relations in this part of the world for the next decades.

The right of the Goths to settle in the Roman Empire was confirmed and they were granted autonomy as *foederati*. Themistius (Oratio 16 and 34) proclaimed in his speeches that a major success had been achieved and that in time the Goths would assimilate with Rome, as did the Galatians before them. History was soon to show that these hopes were unrealistic. For the Goths, it was the beginning of the process that transformed the Thervings into Visigoths and at the same time intensified the process of their Christianization. Emperor Constantius II and Valens professed Arianism and the Goths adopted Christianity in this rite (Rubin 1981). Adherence to Arianism, later condemned by the mainstream of the church, was an additional element that strengthened the sense of separateness of the Goths living within the Roman Empire. At the same time, the adoption of Christianity by some of the Gothic elites led to a sharp conflict with the Goths who adhered to the old pagan customs – especially those living east of the Danube.

The next stage of the Gothic wars took place shortly after the death in January 395 of Emperor Theodosius which changed the balance of power fundamentally

(Rousseau 1992; Kienast *et al.*, 2017). Alaric, Gothic chieftain, invaded Italy in 401 and made a deal in 404 that allowed him to use the resources of the Western Empire in Pannonia. At this time (405), the Western Empire had to face another invasion of the Goths led by Radagaisus. This is perhaps a very important event for a better understanding of Olbia's role at that time. "[...] Rhodogaisus [Ῥοδογάϊσος], having collected four hundred thousand of the Celts, and the German tribes that dwell beyond the Danube and the Rhine, made the preparations for passing over into Italy.¹" (Zosimus 1814: 5.26.3), and did not hide his pagan beliefs: *Radagaisus [...] hic supra hanc incredibilem multitudinem indomitamque uirtutem paganus et Scythae erat, qui, ut mos est barbaris huiusmodi gentibus, omnem Romani generis sanguinem suis propinare deuouerat* (Orosius 1889: 7, 37.4–5). The invasion ended in complete defeat and extermination of the forces of Radagaisus in 406. At the head of the Roman army was Stilicho, Alaric's adversary, while the latter watched the events without intervening on either side. In addition to the Germanic invasions, the Huns under Uldin attacked in the south. Uldin, who at that time ruled approximately the territory of today's Muntenia (Wallachia), had just (400) captured, killed, and sent back to Constantinople the head of the Gothic rebel Gainas. After this, he invaded the western part of the Roman Empire (406) but was "convinced" by Stilicho to help destroy the army of Radagaisus.

In 407, there was another, as mentioned above, invasion of the Empire by the Germans. This time they crossed the Rhine (probably a reason for Zosimus' confusion with the incursion of Radagaisus). At the same time, a rebellion broke out in Britain. This opened the possibility of another invasion of Italy for Alaric (strongly reinforced by the followers of Radagaisus). Stilicho paid tribute to Alaric for abandoning the invasion to keep his hands untied for problems in Gaul and Britain. However, this greatly weakened his position at the court of Emperor Honorius. There was a coup against him at the Imperial court while he was travelling with a small escort of Goths and Huns. After the death of Stilicho, the persecution of the Goths began in the area controlled by Honorius, which led to a mass flight of thousands of warriors with their families to Noricum, to Alaric. Rome was deprived of its only effective military force and Alaric re-entered Italy (408). Further events show that Alaric, step by step, changed his political status in the Empire: first he defended the persecuted Goths, then demanded a ransom, later appointing Priscus Attalus as counter-emperor, and finally crossing another red line in 410 by the sack of Rome.

The Goths became an open and unquestioned independent player in the political arena. The rule of Alaric, who soon died (411), is considered by some researchers as the beginning of the constitution of the division into Visigoths and Ostrogoths

1 In Greek: ἐκ τῶν ὑπὲρ τὸν Ἰστρον καὶ τὸν Πῆγον Κελτικῶν τε καὶ Γερμανικῶν ἔθνων ἐς τεσσαράκοντα συναγαγὼν μυριάδας.

in place of the previous dynastic divisions. Now the fundamental division was between the Goths, who formed increasingly independent political organisms within the Roman Empire, and those who remained outside its borders. The period of the next several decades is the time of solidification of the Gothic and, more broadly, Germanic states in the Western Empire, and at the same time an extremely important period in the history of Olbia, which in the 430s becomes deserted. Simultaneously the settlements of the Cherniakhiv culture in the Dnipro basin are also abandoned. When another Roman-Gothic conflict on a larger scale occurs in 458, there are no longer any Goths in most of the area around Olbia. Nevertheless, for the sake of consistency of the narrative, I will briefly present the most important historical events, because they undoubtedly played a role in the creation of later sources, i.e., written long after the abandonment of Olbia. They will help to understand the attitude of the authors to the described events and better interpret the information they provide.

The situation of the Goths changed during Emperor Majorian's war against Theodoric II. In 458, Majorian defeated Theodoric II, restored Roman control over southern France and part of Spain, and forced the Visigoths to retreat to Aquitaine and re-recognize the status of *foederati*, i.e., in practice the suzerainty of Rome. Certainly, these successes, albeit temporary, may have influenced the anti-Gothic attitude of some writers of the period. Shortly after Majorian's death in 461, Theodoric regained control of southern France and became actively involved in matters relating to the succession to the throne of the late emperor. After the assassination of Theodoric II by his brother Euric in 466, the latter reunited the Visigoths during the following years of his reign and extended control back to part of Spain.

During these dramatic events in the west, there was also a crisis in the state of the Huns, which included the Ostrogoths. The reign of Attila (434–453) was most likely followed by a spectacularly successful reign of the Ostrogoths. At Nedao (453), probably in Pannonia, they defeated the Huns and gained independence. Also in Pannonia, the Ostrogoths, under the rule of the Amal dynasty, began to create, in the footsteps of the Visigoths, an independent state under Theodoric the Great (471–526). Meanwhile, in 476, another, more symbolic than actual, event took place – the dethronement of the emperor Romulus Augustulus by Odoacer, a barbarian chieftain (maybe of Hunnic origin). Rome falls in 476 and is only a mark of a long historical process and still, history continues. As a result of the diplomatic efforts of the Byzantine emperor Zeno, the Ostrogoths invaded Italy, defeated Odoacer and established in 493 their own kingdom in Italy.

After Theodoric's death in 526, the last act of the Roman-Gothic Wars took place. Emperor Justinian tried to take advantage of an interregnum period and launched a military campaign with an ambitious plan to recover Italy and the rest of the Western

Empire. During this almost 20-year campaign (535–554), Justinian's generals managed to recapture most of the territories. Nevertheless, the invasion of the Lombards in 568 forced the Byzantines to accept the loss of power in the northern part of Italy. Justinian in his restoration of the Empire started with attacking Vandals in 533 and then in 535 started the Gothic War to reconquest Italy, which lasted nearly 20 years. That was of course the reason that he insisted that historians picture the rule of the Goths as illegitimate.

For the research on Olbia in the Gothic and Hunnic periods, these events are important in that the military action was followed by propaganda activities undermining the legitimacy of the Goths' rule in the areas of the former Roman Empire. This was the time in which Jordanes lived and wrote (Heather 1991: 47–49 opt for 552 years for the plague mentioned by Jordanes in *Getica* 104 but Goffart 1988: 98 for the year 554 however, most scholars now tend to date it to 541–549: cf., Eisenberg and Mordechai 2019 about literature of the subject) and his work can be interpreted as a response to the Byzantine propaganda that diminished the role and importance of the Goths in the history of the last few hundred years.

Archaeological timeline

The chronology of the Cherniakhiv culture generally accepted by archaeologists is somewhat problematic when compared to the narrative of historians built mainly based on Greco-Roman written sources. The first problem is that historians and archaeologists use different chronological systems. Archaeologists use a system based on the analysis of ceramic vessels, which are the most frequently found type of artefacts during excavations. This system is based on the work of Gorokhovskiy (1988) with later improvements. The essence of the discrepancy is that historians are used to using terms such as “the first quarter of the century,” while archaeologists sometimes divide the century into three parts.

Similarly, the phases of the Cherniakhiv culture are divided by archaeologists into several stages marked with Roman numerals, which in the base publication (Gorokhovskiy 1988) were of course dated according to years, but in a large part of archaeological publications, the authors most often work within the framework of relative chronology (marked with Roman numerals). If we add to this the evolution in absolute dating of individual phases, it will show us the inconvenience of precise synchronization of historical and archaeological data. For these reasons, in the considerations presented below, I provide dates “translated” from “archaeological language” to “historical language” to maintain the coherence of the entire text.

According to archaeological sources – I rely here mainly on the results of excavations in trenches R-23 (Polish-Ukrainian, Twardecki and Buisikh 2020) and R-25 (Ukrainian) – the last traces of Roman presence in Olbia come from excavation

R-25 and date back to the 260s or 270s. Conventionally (historically), researchers set the moment of leaving Olbia by the Romans at around 275. The traces of fire seem to indicate that the end of the Roman presence and the beginning of the Cherniakhiv settlement in Olbia was associated with violence and destruction (Stobbe *et al.*, 2019). This is the *terminus ante quem* the Roman presence in Olbia is archaeologically attested.

The first traces of the presence of items related to the Cherniakhiv culture come from the chronological context dated to the beginning of the 4th century. However, it can be assumed that the settlement of the Goths in Olbia could have started a little earlier or a little later. Two issues should be noted here: 1. the separation of the presence of the Goths in the so-called Lower Town (port) and in the territory of the so-called “Roman Citadel” and 2. discrepancies between individual researchers in this regard.

Boris Magomedov believes that while the Goths could have settled in the Lower Town and Olbia’s vicinity quite early (end of the 3rd–beginning of the 4th centuries) and used this place (Lower Town) as an initially seasonal port, they settled in the “Citadel” area only in the last quarter (last third) of the 4th century (Magomedov in the paper presented in this volume). He bases his theses on the material from earlier excavations in Olbia. Didenko, however, believes that the Goths settled in the “Citadel” area already at the beginning of the 4th century (Didenko in the paper presented in this volume). This date is based on the analysis of ceramics obtained from Polish-Ukrainian excavations in Trench R-23 as well as recent work carried out in Trench R-25. Personally, I am more inclined to the dating presented by Serhii Didenko.

In such a case, after the destruction resulting from the evacuation of the Roman garrison in the 270s or a little earlier, we would first be dealing with the destruction of Olbia (fire layer) and then its gradual settlement at the end of the 3rd or beginning of the 4th century (290–315 – my “translation” into “historical language”). I also do not agree with the separation of settlements in the Lower Town and the vicinity of Olbia from those in the “Citadel” area. There are many indications that already in the early 4th century, Olbia was a settlement of the Cherniakhiv culture and a production and trade centre (Twardecki and Buiskikh 2020 and a major part of the papers presented in this volume).

The analyses of our works so far show that the Goths broke the architectural (and probably also cultural) continuity with the settlement network of the Roman period. It can be assumed that a completely new settlement was established in Graeco-Roman Olbia, which broke with the earlier character of the city (see the text by Alla Buiskikh presented in this volume; also that by Boris Magomedov also in this volume). In short, from the end of the 3rd century there is no mention of Olbia, but a Gothic settlement existed, perhaps even with a different name. The 3rd/4th centuries are the period of development of this settlement (Figs 2, 3). After the invasion

Olbia 2021
Trench R23
Plan 3: Occupation Surface
Scale:1:50
Date:05.08.2021
Photo: A.Twardecki
Processing: M.Antos,

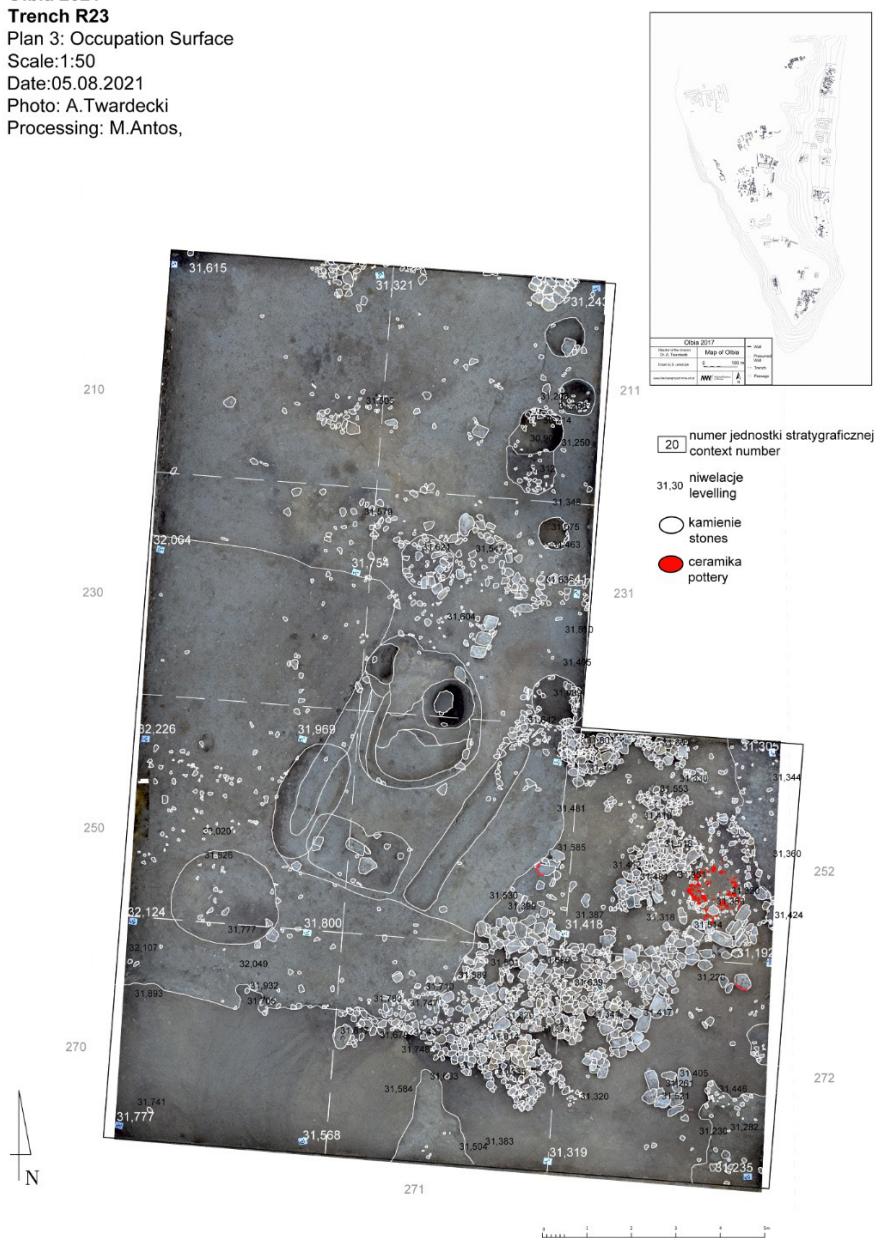


Fig. 2. Plan of Trench R-23 at the end of the season 2021 with constructions of the Cherniakhiv culture. Authors: A. Twardecki and M. Antos.



Fig. 3. Trench R-23. A close-up of the presumed rooms of the Cherniakhiv culture constructions with the floor covered with broken ceramics. Author: A. Twardecki.

of the Huns in 375, there is even a period of prosperity – an increase in the number of imported ceramics (Didenko in the paper presented in this volume). The final abandonment of the settlement takes place around the 30s of the 5th centuries (Magomedov in the paper presented in this volume; Didenko in the paper presented in this volume).

In the last-Hunnic phase of the existence of the settlement in former Olbia (circa 375–circa 430), we are faced with another controversy between scholars. Boris Magomedov (in the paper presented in this volume) is of the opinion that not only the fortifications at the “Citadel” but also the entire system of former fortifications were rebuilt at that time. Alla Buislykh, however, sees no signs of such extensive reconstruction of the fortifications (Buislykh in the paper presented in this volume). In this case, Magomedov’s position is closer to me (see below the analysis of the Germanic myths), despite the lack of traces of renovation of the citadel’s defensive walls in the post-Roman period. This may be due to the state of research, although it cannot be definitively ruled out that Alla Buislykh is right in this matter.

An extremely interesting issue is also the differences that exist in the opinions of historians and archaeologists regarding the scope of the state of Hermanaric, i.e., the scope of Gothic influence at the apogee of the political power of the Goths (the Cherniakhiv culture and the Sântana de Mureș culture, but also the Wielbark

culture). Some historians (see above), for example Wolfram (1990; 1997) have suggested that the rule of Hermanaric extended even to the Ural mountains. Meanwhile, archaeologists have found confirmation of the settlement of the Cherniakhiv culture only up to the border marked in the east by the Siverskyi Donets river (Lyubichev and Myzgin 2014). In my opinion, both views can be reconciled by assuming the border of the Cherniakhiv settlement around the Siverskyi Donets, while Hermanaric's political control could have extended further east, to peoples of non-Gothic origin. Without going into a detailed discussion, it should be stated that Olbia was undoubtedly located in a strategically key place and on the border separating the influence of the Thervings and Greuthungs (Fig. 1).

CHRISTIANIZATION OF THE GOTHs

After the adoption of Christianity in the 4th century by some Goths, there were also persecutions of Germanic followers of this religion by pagan kinsmen. Written sources provide information about the persecution initiated by Athanaric. One of the persecutors of Christians known by name was Vinguric (e.g., Sozomenus 1960: 6, 37). However, since the Christianized Goths could have been perceived as supporters of Rome, this persecution could also have had political reasons (cf., Rubin 1981; Wolfram 1990: 83; Szada 2020).

The peace concluded with the Goths by Theodosius in 382 was probably another milestone in the history of the Gothic settlement in Olbia. A large part of the Goths settled permanently within the Roman Empire and most of them accepted Christianity over time. Meanwhile, in Gothic Olbia, we find virtually no traces of Christianization at that time. It can therefore be assumed that here, as in neighbouring Tyras, the inhabitants continued to adhere to the old, pagan customs. This connects perfectly with the above-mentioned issue of the invasion of Radagaisus and possibly his connections with *Reiðgotaland*. In this context, the Radagaisus disaster could have meant significant depopulation and the beginning of the end of the importance of this pagan centre in the early 5th century, which in turn would well explain the depopulation of Olbia and the surrounding settlements of the Cherniakhiv culture around the 430s (see archaeological timeline).

GOTHIC MYTHOLOGY

The previously presented description of historical events, based mainly on written sources and archaeological data, should be supplemented with the information we have in Gothic myths. However, before presenting the material, it should be clearly

stated that the nature of mythological sources requires research techniques dramatically different from the two previous types of sources (historical and archaeological). The conclusions that can be drawn from the analysis of myths or epic poetry will always remain much vaguer and more debatable than those drawn by classical philologists, historians, or archaeologists. I leave aside the controversial but extremely interesting issue of myth as a historical source (see e.g., two books presenting opposing approaches to the problem: Eliade 1963 and Nestle 1975). A perfect illustration of my position in that matter is a fragment from the “Introduction” of Christopher Tolkien’s translation of the Saga of Heidrek (Tolkien 1960: XXV; cf., Tolkien 1953–1957): “Though no real agreement has ever been reached on the matter, I believe that the cumulative evidence of the names points to the later fourth or early fifth centuries [...]. I do not think that any of the proposed identifications of the battle in the Norse poem with wars recorded by historians of the Empire has any plausibility at all. However, the old voice may be that we hear in these lines – they contain a legend, not ‘history’ as we understand it. But the matter of legend has roots, however much transformed by poets, and though no actual corresponding event has been found in the meagerly recorded history of those times, and surely never will be, in such things as the ‘grave’ and the ‘stone’ on the banks of the Dnipro one, is probably being taken back a thousand years even beyond Heidrek’s Saga to the burial-place of Gothic kings in south-eastern Europe and the high stone in their chief place, on which the king stepped to have homage done to him in the sight of all the people.” As a comment on this quote, I can only mention the information about finding of at least one (child) burial of the Cherniakhiv culture in the Lower Town of Olbia (Leypunskaya 2006 and critical comments by Krapivina 2013: 79–80). We still have not found the Cherniakhiv culture cemetery in Olbia. It should be noted that I am not a supporter of drawing conclusions that are too far-fetched, and I fully agree with Tolkien’s approach.

THE MANUSCRIPTS

We may examine the three most important Germanic legends in which we can try to find mention of Olbia, although it must be emphasized right away not only that these are not direct references but also scattered mentions can in addition be found in other Germanic sagas.

The *Gutasaga* describes the earliest history of Gotland. We know the text from the manuscript dated to about 1350 AD (Codex Holm. B64). I used the edition by Carl Säve (Gutniska... 1859) with the English translation by Peter Tunstall. The second saga – *Hervararsaga ok Heiðreks* (The Saga of Hervör and Heidrek) – describes wars between Goths and the Huns presumably in the 4th century. We know the text from

two manuscripts: H (AM 544) from about the year 1325 and R (MS 2845) from the 15th century. Both are held in the Stofnun Árna Magnússonar in Reykjavík. There are also other manuscripts – U (R 715) dated to the 17th century and held at the University Library in Uppsala and AM 203 fol held at the Copenhagen University Library. The last one is a copy of the R with some additions from an unknown source being however a common ancestor to the manuscript U (Tolkien 1960: XXIX ff). The third saga of interest here is the *Hlöðskviða* (The Battle of the Goths and Huns or in German *Hunnenschlachtlied*). It tells the story about the conflict between Goths and Huns dated to about 4th–5th centuries. We know the text from manuscripts H (AM 544) and R (MS 2845); these are the same manuscripts as for the Saga of Hervör and Heidrek.

For both the last sagas I have used only Tolkien's translation as commonly regarded as the best possible. The introduction written by the translator was crucial for my interpretation of the text.

THE STORY

The most interesting fragment of the Gutesaga: “Then they went away to Fårö and settled there. They couldn't support themselves in that place, so they went to a certain island off the coast of Estland, called Dagö, and settled there and built a town that can still be seen. But they couldn't support themselves there either, so they went up the river Dvina, up through Russia. They went so far that they came to the land of the Greeks. They asked leave of the Greek king to stay there for the waxing and waning of the moon. The king granted that, thinking it was just for one month. Then after a month, he wanted to send them away, but they answered that the moon waxed and waned forever and always, and so they said they were allowed to stay. Word of this dispute of theirs reached the queen. She said, ‘My lord king, you granted them permission to dwell for the waxing and waning of the moon; now that's forever and always, so you can't take it off them.’ So, they settled there, and live there still, and still have something of our language. In those days, and for long afterwards, men believed in *holt* and *howe* (grove and gravemound), sanctuaries and sacred enclosures, and in the heathen gods. They made offerings of their sons and daughters and cattle, with feasting and drinking” (Gutasagen 2007: 2).

The description of the migration from Riga, through Ruthenia (the manuscript is from the mid-14th century) to the seat of the Greek king, where the Goths settled by deception, corresponds to the northern route from the Baltic to the Black Sea: along the Dvina and then the Dnipro to its mouth. And at the mouth of the Dnipro, the first large Greek city was Olbia. Unfortunately, the Crimea (particularly the Bosporan

Kingdom) and maybe even Constantinople itself are more probable. It is also possible that the original migration route of the Goths – up the Vistula and lateral along the Dnister – was replaced in the saga by the medieval route of the Vikings (including the Gutes) along the Dvina and down the Dnipro. However, we are dealing with a myth, and it is difficult to find precision in mythical stories. It is also worth paying attention to the entire next paragraph, only part of which I quote, emphasizing the religious conservatism of the Gutes and their attachment to the old, pagan faith.

The legend itself is interesting because there is still a discussion about the type of relationship between the Goths and the Gutes. In the Germanic sagas there is often no distinction between the two (de Vries 1977: 183 s.v. *gothi*; Strid 2011: 43ff). This is a very interesting clue that still requires in-depth research. Here I would only like to draw attention to a certain etymological aspect. Despite all doubts, however, there remains the possibility that from the 3rd century at least the Germans also used the northern route to travel by water between the Baltic Sea and the Black Sea. If we accept this position, we could assume a constant flow of Goths strongly motivated by their pagan faith through the northern waterway ending at the mouth of the Dnipro. Perhaps the centre of power of the pagan Goths, fighting against their Christianized brethren, was located at the mouth of the waterways connecting the Baltic and the Black Sea (Dvina-Dnipro and Vistula-Dnister). Faithfulness to the old faith was supported by new arrivals from the Baltic Sea. At the mouth of the Dnipro there was ancient Olbia and at the mouth of the Dnister – Tyras. We can find some clues in subsequent sagas.

I would like to treat the next two sagas similarly selectively. *The Saga of King Heidrek the Wise* includes at its end *The Battle of the Goths and Huns*, which is considered one of the oldest sagas in Germanic mythology in general (Tolkien 1960: XXII). We may find clues that will allow us to look with fresh eyes at the Latin and Roman sources and, combined with recent archaeological data, attempt to verify our idea of the role of Olbia in the 4th and 5th centuries. The key issue here is the term *Reiðgotaland*, which appears in many Nordic sagas. Tolkien thus explains the etymology and meaning of the word: “The word *Hræða* as in *Widsith* [old-English poem from the late 10th century – AT] means Goths and is in origin the same name-element as appears in Norse as *Reið-* (earlier *Hreið-*) in *Reiðgotar* and *Reiðgotaland*, the land and people over whom king Heidrek came to rule in the saga. The evidence suggests to me that this name was a poetic, honorific designation of the Goths, of general scope, and not the name of a particular branch or community. In later times Icelandic geographers seem to have conceived *Reiðgotaland* very vaguely, as meaning little more than that if a man travelled eastwards he would cross the borders of Poland and enter *Reiðgotaland*. A Gothic dwelling *á stæðum Danpar*, on the banks of the Dnipro, is at least not in complete contradiction to such an idea.”

[Tolkien in footnote 1 quotes the relevant fragments of medieval sagas: *Austr frá Polena er Reiðgotaland*, Hauksbók 155 [...] All the versions of the saga place *Reiðgotaland* to the west of Gardaríki, i.e., Russia (p. 28)].

I would also like to draw attention to the description of the seat of the Goths as located *á staðum Danpar*. It is worth noting in this context the way classical sources describe the siting of the Greek Olbia, under its equivalent second name: Borysthenes, derived from the Greek name of the river that is today known as the Dnipro, e.g., Herodotus (1920: 4, 18) – “whom the Greek colonists on the Hypanis river (who call themselves Olbiopolitae) call Borystheneítai”² and Herodotus (1920: 4, 53) – “the land between these rivers, where the land projects like a ship’s beak, is called Hippolaus’ promontory; a temple of Demeter stands there. The settlement of the Borystheneítai is beyond the temple, on the Hypanis”;³ (cf., Claudius Ptolemaeus 2006: 8, 10, 3).

As pointed out Benedetto Bravo (2021: 24, 40), the oldest place of Greek settlement in the region was described as ὑπὸ τῷ Ὑπάνι, which means “under the Buh” and most likely resulted from the location of the settlement at the mouth of the Buh and then along the liman into the sea. Technically it was since 6th century BC part of the “Olbioupolis” (called also Borysthenes – i.e., Dnipro). And again, technically speaking, one might wonder if *á staðum Danpar* is not in some sense like the Greek version of the description of the location of Olbia/Borysthenes and its areas as being not so much “on the banks of the Dnipro” but more “at the mouth of the Dnipro”? All the more so because the Greco-Roman Olbia was located in the place where the Buh flows into the Dnipro and the estuary begins, through which the waters of both rivers flow to the sea in the area of Ochakiv (ancient *Borysthenis*). In short, it was “at the *Borysthenes*”.

If we return to the saga itself, then the land of the Huns (Tolkien 1960: XXVI) lay to the south (verse 91) and east (verse 77) of the country of the Goths and was separated from it by the *Myrkviðr* forest (Tolkien 1960: XXVI, note 2 and p. 52 – “[...] they rode through the forest called *Myrkviðr*, which divided the land of the Huns from the land of the Goths”) in Norse *mork* (originally “boundary”, cf., modern English *march*) means *forest* (cf., verse 76). This wood-question appears in the context of Heidrek’s grave, which, could not have been far away from the *Árheimar* – capital of the fallen hero. This forest is named in the list of demands of Hlöd – Heidrek’s son of a Hunnic mother and therefore the half-brother of Angantýr. Basically, he demands half of Heidrek’s entire estate as his inheritance and, among other things, also:

2 In Greek: τοὺς Ἕλληνας οἱ οἰκέοντες ἐπὶ τῷ Ὑπάνι ποταμῷ καλέουσι Βορυσθενεΐτας, σφέας δὲ αὐτοὺς Ὀλβιοπολίτας (Herodotus 2015).

3 In Greek: τὸ δὲ μετὰ τῶν ποταμῶν τούτων ἐὼν ἔμβολον τῆς χώρας Ἰππόλεω ἄκρη καλέεται, ἐν δὲ αὐτῇ ἱρὸν Διμήτρος ἐν ἰδρύται, πέρην δὲ τοῦ ἱροῦ ἐπὶ τῷ Ὑπάνι Βορυσθενεΐται (Herodotus 2015).

“The renowned forest
That is named Mirkwood (*Myrkviðr*),
The hallowed grave
In Gothland standing,
The fair-wrought stone
Beside the Dniپر (*á stæðum Danpar*)” (Tolkien 1960: 49).

Tolkien himself states that the very concept of the “dark border forest” appears in other Germanic poems and is in several places in Europe (Tolkien 1960: XXVI–XXVII).

Let us abandon the saga for a moment again and look at the description of Olbia and its surroundings in ancient sources. In Herodotus we find information about the land of Hylaia (wooded) separating Olbia from the steppe. “But to the east of these farming Scythians, across the Panticapes river, you are in the land of nomadic Scythians, who plant nothing, nor plough; and all these lands except the Woodlands are bare of trees”⁴ (Herodotus 1920: 4, 19). The location of Hylaia is briefly but precisely described by the anonymous author of *Periplus Ponti Euxini* (after year 6 AD; probably Arrian): “but to the east, beyond the Borysthenes river, there are the Scythians who live in the so-called Hylaia, farmers live above them”⁵ (*Periplus Ponti Euxini* 1965: 49, 9, whose author clearly follows Ephorus from Kyme, 4th century BC). This area was located east of the Dniپر (Borysthenes) and north of the Kinburn Peninsula (Achilleos Dromos – Achilles Racecourse) and west of today’s city of Skadovsk at the entrance to the Crimean Peninsula. Approximately it is the eastern part of the present Kherson oblast. It owes its name – “wooded” – to the existence of a dense forest in this area, which is confirmed in many other ancient sources. Again, I would not like to reach too far-reaching conclusions here, but I would like to draw attention to a certain convergence of topographic descriptions. Even more so because both in the Germanic sagas themselves and among researchers there is no consensus as to the location of the area where the Goths and the Huns clashed. However, I accept Tolkien’s position here, which (though far from being final), favours the location on the Black Sea and not, for example, on the Vistula (Tolkien 1960: XXVII).

However, let us return to the text of the saga and look at the fragment in which the name of the capital of the Goths appears. After Heidrek’s death, his son Angantýr takes revenge on the assassins, takes – Tyrfing, his father’s magic sword, from

4 In Greek: τὸ δὲ πρὸς τὴν ἡῶ τῶν γεωργῶν τούτων Σκυθέων διαβάντι τὸν Παντικάπην ποταμὸν νομάδες ἤδη Σκύθαι νέμονται, οὔτε τις σπείροντες οὔδὲ νοῦτε ἀροῦντες ψιλὴ δὲ δενδρέων ἢ πᾶσα αὕτη πλὴν τῆς Ὑλαιῆς (Herodotus 2015).

5 In Greek: πρὸς ἀνατολὰς δὲ ἐκβάντι τὸν Βορυσθένην ποταμὸν, τοὺς τὴν λεγομένην Ὑλαιαν οἰκοῦντας Σκύθας εἶναι, Γεωργούς δ’ ἐχομένους τούτων ἄνω.

them and returns to his father's residence to give a funeral feast. At this moment the *Battle between the Goths and the Huns* begins: "And now Angantýr returned home, and immediately afterwards he had a great funeral feast held at the place called *Árheimar*, on the banks of the Dnipro (*á Danpar stæðum*), to honour the memory of his father" (Tolkien 1960: 46). Then arrives Hlöd:

"Hlöd rode from the east,
Heir of Heidrek,
He came to the court
Claiming his birthright,
To *Árheimar*,
The homes of the Goths" (Tolkien 1960: 47).

There have been several attempts to locate *Árheimar* (Pritsak 1981; 1993; Dzhakson 2001: 81, 82), but it seems that we encounter a fundamental insurmountable obstacle here: the nature of the myth or epic does not allow it to be treated as a typical historical source. With this reservation, however, an attempt can be made to interpret the information contained in the above-quoted fragments. First, I would understand *á Danpar stæðum* as Dniprostead, which slightly differs from "at/on the banks of Dnipro" and interpret it more as "at the Dnipro side" rather than "at the banks of Dnipro". Secondly, I would add the exact translation of the *Árheimar* as a "river home", when that river is the *Danpar*. So, as a consequence of such interpretations of the sources, we could have *Árheimar* as a river home at the side of Dnipro. Taking all this into account, I would like to add Olbia as an alternative to previous proposals for its location (Kamianka-Dniprovsk, Kyiv). Let's get back to the saga. The war begins and in the spring the Hunnic army crosses the border forest (*Myrkviðr*) – "and when they came out of the forest, they were in a land of broad populous tracts and level plains. On the plains stood a fair stronghold, over which Hervör, the sister of Hlöd and Angantýr, had command, together with Ormar her foster-father; they were set there to defend the land against the army of the Huns, and they had a strong garrison" (Tolkien 1960: 52). After the defeat in the battle with the Huns – "Day and night Ormar rode, as fast as he could, to reach King Angantýr in *Árheimar*; [...]" When Ormar came before Angantýr the king, he said:

From the south have I come
To speak these tidings:
Fire in the marches
Of Mirkwood is raging,
With the gore of men

All Gothland's [*Goðþjóðar*] sprinkled!" (Tolkien 1960: 53, verses there are very damaged: cf., Tolkien 1960: XXII).

When asked about the location of the final battle with the Huns:

"The king answered:

On the Danube-heath

Below the Hills of Ash

Shall you call them to fight,

Their foes meeting;

There often Goths

Have given battle,

Renown gaining

In noble victories" (Tolkien 1960: 55, again these verses are corrupt). The battle ended with a great victory for the Goths and the death of Hlöd.

In my opinion both *Myrkviðr* and *Árheimar* as well the battle somewhere in the Danube roughly correspond to the topography of the areas between Crimea and the Dnipro and Buh and beyond the Dniester and Danube. Probably the Battle of Nedao, took place near the Danube after Attila's death, which put an end to the rule of the Huns. However, with all these reservations, it would be a sin not to consider the new information provided by our excavations in Olbia, which shows that in the 5th century it was a significant centre of Gothic settlement, probably exceeding in importance most of the surrounding settlements of the Cherniakhiv culture. In these circumstances, the former Olbia is a new and extremely strong candidate for *Árheimar á Danparstæðum*, a settlement on the Dnipro.

If we accept the working thesis that the evidence discussed above is very suggestive that a new capital of the Goths was established in the place of Olbia, we should also consider what role it could have played in the history of the region and in the history of the Goths.

OLBIA UNDER GOTHIC RULE

The above mentioned struggles between Goths and Romans were full of dramatic twists marked by defeats for one side or the other. The first turning point is undoubtedly the Battle of Abritos. From our point of view, the most important and irreversible consequence of this defeat was the abandonment of Olbia by the Roman garrison. Archaeological sources reveal the first traces of settlements related to the Goths (Cherniakhiv culture) appeared in this region in the 70s of the 3rd century (Krapivina 2013). There are many indications that the character of the settlement



Fig. 4. An attempt at hypothetical topographic identification of lands and cities mentioned in Germanic sagas. Author: A. Twardecki (after ©Google Maps).

was changing equally and irreversibly, and the buildings of the new occupants ignored the earlier heritage of Greco-Roman architecture. It can be safely assumed that the life of the classical city of Olbia known to Herodotus or Dion Chrysostom ended and the history of an important, but now Gothic settlement began. Perhaps even the name of the settlement changed to *Árheimar á Danparstæðum*, a River Home at the Dnipro.

Furthermore, perhaps *Árheimar á Danparstæðum* is equal to Oiūm. The Greek meaning of the name is very similar to the terms used by the Goths to describe it. Crucial for this is a fragment of the text of Jordanes (2020: 27) – “While seeking out suitable land and the most suitable places for habitation, they came to the land of the Scythians, which in their language is called Oiūm. Enchanted by the great fertility of the region, half of the army had already gone across when, so it is said, the bridge by which it had crossed the river collapsed beyond repair. No longer could anyone cross over or return”.⁶

The sound of the Gothic name Oiūm (Aujumn) does not exclude the derivation of its origin from some late antique form to describe Olbia and adjacent territories (e.g.,

6 In Latin: *Qui aptissimas sedes locaque quum quæreret congrua, pervenit ad Scythiæ terras, quæ lingua eorum Oiūm vocabantur, ubi delectatus magna ubertate regionum. Et exercitus medietate transposita, pons dicitur, unde amnem trajecerat, irreparabiliter corruisse, nec ulterius jam cuiquam licuit ire aut redire.*

coming from Olvium) which could remain the old name of the mythical *Árheimar*. Perhaps it is a coincidence, but the oldest traces of the presence of representatives of the Cherniakhiv culture in Olbia appear shortly after the Battle of Naissus (268 or 269). It is now generally accepted that the areas between the Danube and the Dniro were ruled by the Thevringid dynasty, and those east of the Dniro up to the Don were the domain of the Greuthungid dynasty. Some scholars are of the opinion that Hermanaric managed, over the course of his long life, to extend his power primarily over the areas inhabited by Thevringi and Greuthingi. That is, his state included areas from the Baltic to the Black Sea and from the Danube to the Don and perhaps even extending to the Urals. And, perhaps again, Olbia/*Árheimar* was one of important centres of his “state” lying on the crossroads between the road along the waterways to the Baltic Sea and the land route connecting Greuthungi and Thevringi territories. Even after the Hunnic invasion, *Árheimar* preserved its importance as a capital centre of the pagan Goths engaged in confrontation with Christianized, pro Roman Goths moving west of the Danube. This situation ended at the beginning of the 5th century. The pagan Goths did not survive the disaster of the invasion of Radagaisus and very soon Attila, the new ruler of the Huns, moved the centre of his power more to the west, near the Danube. At this point, Olbia and the surrounding settlements were finally deserted, although there may still have been a harbour to cater for water trade and a nearby crossing over the Buh River (Fig. 4).

This version of the last, “Hunnic” period of Olbia’s existence obviously requires critical verification and further research to confirm, reject or modify it.

REFERENCES

- Ammianus Marcellinus. 1935–1940. *Rerum Gestarum*. T. E. Page, E. Capps and W. H. D. Rouse (eds), J. Rolfe (transl.). Cambridge.
- Anonymus. 1965. Periplous Ponti Euxini. In *Geographi Graeci minores* 1. K. Müller (ed.). Paris. 1855 (repr. Hildesheim: Olms, 1965): 402–423.
- Bravo, B. 2021. Pontica varia: *Poleis* e città, culti e rappresentazioni religiose, *thiasoi* orfici, organizzazione del commercio, “giustizia privata” nella periferia nord-orientale del mondo greco (secoli VII–IV a.C.). *Bulletin de Correspondance Hellénique, Suppléments* 63.
- Budanova, V. P. 1990. *Goty v epokhu velikogo pereseleniya narodov*. Saint Petersburg
- Cambridge Ancient History. 1998. The Late Empire, AD 337–425. In A. Cameron and P. Garnsey (eds), *Cambridge Ancient History*, vol. 13. Cambridge.
- Claudius Ptolemaeus. 2006. *Geographia (lib. 1–8)*. G. Grasshoff and A. Stückelberger (eds), *Klaudios Ptolemaios Handbuch der Geographie*, vols. 1–2. Basel.
- Dzhakson, T. N. 2001. *Austr i gördum: drevnerusskie toponimy v drevneskandinavskikh istochnikakh*. Moskva.
- Eisenberg, M. and Mordechai, L. 2019. The Justinianic Plague: an interdisciplinary review. *Byzantine and Modern Studies* 43: 156–180.

- Eliade, M. 1961. *Myth and Reality*. New York.
- Given, J. 2014. *The Fragmentary History of Priscus*. Merchantville, New Jersey.
- Gnecchi-Ruscone, G. A. *et al.*, 2022. Ancient genomes reveal origin and rapid trans-Eurasian migration of 7th century Avar elites. *Cell* 185(8): 1402–1413.e21. Electronic document: <https://doi.org/10.1016/j.cell.2022.03.007>. Last access: 5.09.2023.
- Godłowski, K. 1991. Jakuszowice – a multi-period settlement in southern Poland. *Antiquity* 65(248): 662–675.
- Goffart, W. 1988. *The Narrators of Barbarian History*. Princeton.
- [Gorokhovskiy], E. L. 1988. Khronologiya Cherniakhovskikh mogil'nikov Lesostepi Ukrainy. In B. A. Rybakov, I. I. Rybakov and V. D. Baran (eds), *Trudy V mezhdunarodnogo kongressa arkheologov-slavistov, vol. 4*, 34–46. Kyiv.
- Gutniska. 1859. *Gutniska Urkunder: Guta lag, Guta saga och Gotlands runinskrifte. Språkligt behandlade*. C. Sæve (ed.). Stockholm.
- Gutasagan eller Gutarnas Krönika*, 2007. P. Tunstall P. (transl.). Electronic document: <http://germanicmythology.com/works/Gutasagan.html> accessed. Last access: 30.08.2023.
- Harmatta, J. 1951. The Golden Bow of the Huns. *Acta Archaeologica Academiae Scientiarum Hungaricae* 1: 107–151.
- Heather, P. 1991. *Goths and Romans 332–489*. Oxford.
- Heather, P. 2005. *The Fall of the Roman Empire*. Oxford.
- Heather, P. 2010. *Empires and Barbarians: The Fall of Rome and the Birth of Europe*. New York.
- Herodotus. 1920. *The Histories*. A. D. Godley (transl.). Cambridge.
- Herodotus. 2015. *Herodoti Historiae* (2 vols.), N. G. Wilson (ed.). Oxford.
- James, E. 2009. *Europe's Barbarians, AD 200–600*. London.
- Jordanes. 2020 “Romana” and “Getica”. P. Van Nuffelen and L. Van Hoof (transl.). *Translated texts for historians* 75. Liverpool.
- Kienast, D., Eck, W. and Heil, M. 2017. Theodosius I. In *Römische Kaisertabelle: Grundzüge einer römischen Kaiserchronologie*, 323–326. Darmstadt. Electronic document: <https://archive.org/details/romische-kaisertabelle/page/n11/mode/1up?view=theater>. Last access: 6.12.2023.
- Kim, H. J. 2013. *The Huns, Rome and the Birth of Europe*. Cambridge.
- Kim, H. J. 2015. *The Huns*. London–New York.
- Kim, H. J. 2017. The Political Organization of Steppe Empires and their Contribution to Eurasian Interconnectivity: The Case of the Huns and Their Impact on the Frankish West. In H. J. Kim, F. J. Vervaet and S. F. Adali (eds), *Eurasian Empires in Antiquity and the Early Middle Age. Contact and Exchange Between the Graeco-Roman World, Inner Asia and China*, 15–33. Cambridge.
- Kotula, T. 1994. *Cesarz Klaudiusz II i Bellum Gothicum lat 269–270*. Wrocław.
- Krapivina, V. V. 2013. Pozdneantichniy period istorii Ol'vii Pontiyskoy. *Vestnik drevney istorii* 1(284): 77–94.
- Kulikowski, M. 2006. *Rome's Gothic Wars: From the Third Century to Alaric*. Cambridge–New York.
- Kulikowski, M. 2009. Review of James (2009). *The American Historical Review* 115(4): 1201–1202.
- Kulikowski, M. 2010, review of Heather (2010). *The Journal of Interdisciplinary History* 42(2): 277–279.
- László, G. 1951. The Significance of the Hun Golden Bow. *Acta Archaeologica Academiae Scientiarum Hungaricae* 1: 91–106.
- Leypunskeya, N. A. 2006. Detskoe pogrebenie III–IV vv. iz Ol'vii. In D. V. Zhuravlev (ed.), *Severnoe Prichernomor'e v epokhu antichnosti i srednevekov'ya. Trudy Gosudarstvennogo Istoricheskogo Muzeia* 159, 187–188. Moskva.

- Lyubichev, M. B and Myzgin, K. V. 2014. Yuzhnaya granitsa areala chernyakhovskoy kul'tury v dneprodonskoy lesostepi: sovremennye predstavleniya. Cherniakhivska kultura. *Oium* 4: 58–71.
- Maas, M. (ed.) 2015. *The Cambridge Companion to the Age of Attila*. Cambridge.
- Magomedov, B. 2020. Gorod Ol'viya: chernyakhovskiy gorizont. *Keramika iz fondov Instituta Arkheologii NANU. Stratum Plus* 4: 219–226.
- Maenchen-Helfen, O. J. 1959. The Ethnic Name Hun. In S. Egerod (ed.), *Studia Serica Bernhard Karlgren dedicata*, 223–238. Copenhagen.
- Maenchen-Helfen, O. J. 1973. *The World of the Huns: Studies in Their History and Culture*. Max Knight (ed.). University of California Press.
- Maenchen-Helfen, O. J. 1978. *Die Welt der Hunnen: Eine Analyse ihrer historischen Dimension*. Vienna–Cologne–Graz. Reprint in 2014; extended translation of the English edition.
- Nestle, W. 1975. *Vom Mythos zum Logos: Die Selbstentfaltung Des griechischen Denkens Von Homer Bis Auf Die Sophistik Und Sokrates*. Stuttgart.
- Orosius Paulus. 1889. *Pauli Orosii Historiarum adversum paganos libri VII*. C. Zangemeister (transl.). Lipsiae.
- Philostorgius. 1981. Kirchengeschichte. J. Bidez and F. Winkelman (eds), *Die griechischen christlichen Schriftsteller* 21. Berlin.
- Pritsak, O. 1981. *The origin of Rus*. Harvard.
- Pritsak, O. 1993. Hlōðskviða. In Ph. Pulsiano and K. Wolf. (eds), *Medieval Scandinavia, and encyclopedia*, 286–287. New York–London.
- Rousseau, P. 1992. Visigothic Migration and Settlement, 376–418: Some Excluded Hypotheses. *Historia* 41(3): 345–361.
- Rubin, Z. 1981. The Conversion of the Visigoths to Christianity. *Museum Helveticum* 38(1): 34–54.
- Shchukin, M. B. 2005. *Gotskiy put' (Goty, Rim i Chernyakhovskaya kul'tura)*. Saint Petersburg.
- Sinor, D. 1990. The Hun Period. In D. Sinor (ed.), *The Cambridge history of early Inner Asia, 177–203*. Cambridge.
- Sozomenus. 1960. Kirchengeschichte. J. Bidez and G. C. Hansen (eds), *Die griechischen christlichen Schriftsteller* 50. Berlin.
- Stobbe, A., Bujskikh [Buiskykh], A., Rühl, L. and Seuffert, L. 2019. An amphora with millet from the Roman citadel at Olbia Pontica, Ukraine. *Archäologische Berichte* 30: 251–258.
- Strid, J. P. 2011. Retracing the Goths. In A. Kaliff and L. Munkhammar (eds), *Wulfila 311–2011: international symposium: Uppsala University June 15–18, 2011*, 41–54. Uppsala. Acta Universitatis Upsaliensis.
- Strzelczyk, J. 1984. *Goci. Rzeczywistość i legenda*, Warszawa.
- Szada, M. 2020. The Missing Link: The Homoian Church in the Danubian Provinces and Its Role in the Conversion of the Goths. *Zeitschrift für Antikes Christentum / Journal of Ancient Christianity* 3(24): 549–584.
- Tolkien, Ch. 1953–1957, *The Battle of the Goths and the Huns*. In *Saga-Book*, vol. 14, 141–163. London.
- Tolkien, Ch. 1960. *The Saga of King Heidrek the Wise*. London.
- Twardecki, A. and Bujskikh [Buiskykh], A. 2020, The Cherniakhov Culture in Olbia Pontica in the light of Polish-Ukrainian excavations 2016–2018, *Sprawozdania Archeologiczne* 73(2): 251–273.
- de Vries, J. 1977. *Altnordisches Etymologisches Wörterbuch*. Brill.
- Ward-Perkins, B. 2009. Kulikowski, Rome's Gothic Wars from the Third Century to Alaric. *Journal of Roman Studies* 99: 296–297.
- Wolfram, H. 1990. *History of the Goths*. Berkeley–Los Angeles.
- Wolfram, H. 1997. *The Roman Empire and Its Germanic Peoples*. Berkeley–Los Angeles–London.

Zin'kovskaya, I. V. 2010. *Korolevstvo Ermanarikha: istochniki i istoriografiya*. Voronezh.

Zosimus. 1814. *New History* (English Translation, transl. Anonymus). Electronic document: <https://www.livius.org/sources/content/zosimus/zosimus-new-history-5/zosimus-new-history-5.26/>. Last access: 3.10.2024.

Zosimus. 1971–1989. Paschoud F. *Zosime. Histoire nouvelle* 1 (1971), 2.1–2.2 (1979), 3.1 (1986), 3.2 (1989). Paris.

Lviv Classical Archaeology Before World War II¹

Natalia Bulyk^a, Roman Berest^b and Olena Tomeniuk^c

At the end of the 19th and the beginning of the 20th centuries, Europe experienced a period of scientific advances in various fields. This is associated with the results of numerous surveys, discoveries, accidental finds, and scientific research, contributing to the appearance of scientific societies and new disciplines. In the field of history, the incredibly rich but little-known ancient architectural, archaeological, and written heritage attracted the attention of many researchers. This resulted in the collection of ancient antiquities, gradually forming a whole direction of scientific research – classical archaeology. The Department of Classical Archaeology and Prehistory of Lviv University (1905) became the main centre of the development of classical archaeology in Eastern Galicia (Eastern Halychyna, now – western Ukraine). The first classical archaeologist from Lviv was Professor Karol Hadaczek. After his tragic death and the beginning of World War I, the Department of Classical Archaeology and Prehistory was divided into two independent departments. Classical archaeology was headed by Edmund Bulanda, with whom the entire development of interwar Lviv classical archaeology is inseparably linked. E. Bulanda's greatest legacy was his students (K. Michałowski, K. Majewski, I. Starchuk, E. Kulczycki), who, after the war, led entire areas of scientific research in Polish universities and made a significant contribution to the study and increasing public awareness of the classical heritage.

KEY-WORDS: Classical Archaeology, Department, research, sites, archaeological culture, heritage, artefact, Karol Hadaczek, Edmund Bulanda, Ivan Starchuk, Kazimierz Majewski

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INTRODUCTION

Archaeology became an independent branch of science in the 19th century. The first sensational discoveries of ancient civilizations contributed to the increasing scientific interest in the unknown cultural heritage and the need for further research. At the beginning of the 19th century, archaeological museums and higher cultural and historical schools were established in London, Paris, Berlin, Vienna, and other European cities and this contributed to developing Oriental studies and research into the Classical Age. Their activities were focused, foremost, on the latest scientific discoveries and the obtained research results, which created a need for specialized development of archaeological science, stimulated the formation of new branches, the accumulation of scientific knowledge, and actualized the need for the training of researchers in new scientific directions. This initial stage of the development of archaeology was described as “the period of antiquarians and romantic synthesis” (Sklenář 1983: 6). Therefore, it is no accident that the 19th century, according to the apt expression of the well-known historian of archaeology Andrzej Abramowicz, went down in history as the “age of archaeology” (Abramowicz 1967). At this time, there is a gradual parallel development of classical archaeology and prehistory.

In Eastern Galicia (Eastern Halychyna, now western Ukraine), which was part of the Austro-Hungarian monarchy, the University of Lviv, where considerable attention was paid to the study and research of monuments of ancient art or culture, was an important centre for the development of archaeology from the middle of the 19th century.

Since then, documents have been preserved in the archives of Lviv,² Cracow,³ Warsaw,⁴ and Vienna.⁵ In recent years, it has become possible to work on these collections, which has allowed an integral review of the development of classical archaeology in Lviv. It has also enriched the research with photos, letters, and personal documents. Another source of information that is coming to light is media reports of discoveries in classical archaeology published on the pages of the contemporary press. Reports on the results of archaeological excavations at ancient sites were often published by Bohdan Janusz, including “Extraordinary Archaeological Discoveries in Rome” and “Works of Greek Art Found on the Seabed” (1909; in detail: Bulyk 2018: 407). Volodymyr Hrebeniak published his essays and notes

2 State Archive of Lviv Region (later SALR), Collection 26 (Lviv University), Inventory 5, File 336 (Personal file of Professor K. Hadaczek).

3 Jagiellonian University Archives, Classic archaeology at the Jagiellonian University in Cracow, 1894–1939, File S II 853.

4 Archives of the Polish Academy of Sciences in Warsaw, File PAN III-275/2 (Kazimierz Majewski).

5 Vienna University Archive. Rigorosenakten der Philosophischen Fakultät, 1873–2003, PH RA 1268 Hadaczek K., 1901 (photo).

on the pages of the *Dilo* newspaper (Hrebeniak 1910; 1912; 1913). Articles about the most important archaeological discoveries in the field of classical archaeology were published in the Polish journals *Eos*, *Kwartalnik Klasyczny*, *Filomata*, *Światowit*, *Wiadomości Archeologiczne*, and Ukrainian journal *Notes of the Shevchenko Scientific Society*. The development of archaeology and its crystallization as a separate branch of science were greatly influenced by sensational foreign scientific discoveries, research results, the accumulation of artefacts in private collections, etc. Thus, the emergence of classical archaeology in Lviv is closely related to the development of archaeological science worldwide. Some aspects of the development of classical archaeology in the Lviv scientific milieu are covered in several publications. Among them, it is worth noting the works of Natalia Bilas (Bilas 2012: 350–381), Roman Berest (Berest 1998: 78–79), Natalia Bulyk (Bulyk 2015: 58–68), Jacek Lech (Lech 2006; Bulyk and Lech 2009: 59–89), Anastasiya Baukova (Baukova 2014: 123–138) and others.

ORIGIN OF CLASSICAL ARCHAEOLOGY. KAROL HADACZEK'S DEPARTMENT

At the beginning of the 20th century, the study of archaeology in Eastern Galicia was developing quite noticeably. Among various directions, interest in classical antiquities was gaining special importance. This was favoured by the activities of several museums (the Museum of the Lubomirski Princes and the Dzieduszycki Natural History Museum, People's House Museum [Muzei Narodnoho Domu] and scientific societies (Regional Archaeological Society [Towarzystwo Naukowe Krajowe], Shevchenko Scientific Society [Naukove Tovarystvo im. Shevchenka]). However, the University of Lviv played the most important role in these processes. The final separation of archaeology from other educational disciplines at the University of Lviv was associated with the appointment of Karol Hadaczek (1873–1914) to the position of Professor of classical archaeology in the spring of 1905 and the creation of the Department of Classical Archaeology and Prehistory (Berest 1998: 78–79; Bulyk and Lech 2009: 59–89; Bulyk 2014: 48–57, 209–235).

Professor of classical philology Ludwik Ćwikliński, who had studied classical archaeology before, had a decisive influence on the formation of the young researcher's interest in classical archaeology because in 1875–1876 he spent six months in Italy, mainly in Rome, where he reviewed classical antiquities (Pilcz 1933: 17). In fact, L. Ćwikliński was at the origins of the organization of the Lviv scientific centre for the study of classical archaeology. One of the first important steps of this researcher was the organization of the “collection of scientific tools for teaching philological-archaeological subjects”, which later became the basis of the Archaeological Cabinet,



Fig. 1. Karol Hadaczek (1873–1914) during his studies in Vienna. 1901. From the collection of the Vienna University Archive, Ref. code 106.I.2726-059.

where practical classes on archaeology were held.⁶ Some of the exhibits came from the private collection of Count Karol Lanckoroński (1848–1933), who was known for his research in Asia Minor (*Gazeta Lwowska* 1890: 2). Numerous materials belonging to the Cabinet were directly related to classical archaeology, in particular, works of ancient art, photos, and copies of antiquities were stored here (Bilas 2005: 49).

An important place in the scientific biography of K. Hadaczek belongs to his studios in Vienna (Fig. 1). Through the recommendation of L. Ćwikliński, after graduating from the university, the young archaeologist studied for three years from the winter semester of 1897/8 to June 1900 at the University of Vienna, where he specialized in classical archaeology, prehistory, and numismatics. He attended the lectures of Emil Raich, Eugen Boreman, Moritz Hoernes, and other famous prehistorians and classical archaeologists (Fig. 2).⁷ K. Hadaczek returned to Lviv with a doctoral degree in classical archaeology. However, his introduction to classical archaeology did not end there. In 1901–1903, Hadaczek received scientific scholarships to participate

6 SALR, Collection 26 (Lviv University), Inventory 7, File 586 (Archaeological Cabinet), p. 70.

7 SALR, Collection 26 (Lviv University), Inventory 5, File 336 (Personal file of Professor K. Hadaczek), p. 3; Vienna University Archive, Rigorosenakten der Philosophischen Fakultät, 1873–2003, File PH RA 1268 (Hadaczek, Karl).

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Wir, Rector der k. k. Universität zu Wien und Decan
der philosophischen Facultät, bestätigen hiermit, dass der Studierende der
Philosophie
Herr *Karl Hadaczek*
gehört zu *Grobowa* in *Galizien*
auf Grundlage des Reifezeugnisses des Gymnasiums zu
Haidlau vom 18. Juni 1891 und des Abgangszeugnisses
an der k. k. Universität zu Leipzig vom 27. September 1897

in die akademischen Studien aufgenommen worden ist, vom *Winter*-Semester
des Studienjahres 1897/98 bis inclusive Sommer-Semester des Studienjahres 1899/00
eine *Philosophie*
an der philosophischen Facultät studiert und während dieser Zeit folgende Vor-
lesungen besucht hat:

Name der Dozenten	Gegenstände der besuchten Vorlesungen	Weiterliche Bemerkungen daneben	Anmerkung
<i>Sach Abgangszeugnis der k. k. Universität zu Leipzig vom Wintersemester des Studienjahres 1897/98 bis Sommersemester des Stu- dienjahres 1899/00 an der philosophischen Facultät der k. k. Universität Leipzig</i>			
<i>In der philosophischen Facultät der k. k. Universität zu Wien</i>			
<i>Prof. Marx</i>	<i>Lehrbuch der Natur- und Ge- schichte der Philosophie</i>		
<i>Prof. Meier</i>	<i>Lehrbuch der Philosophie</i>		
<i>Prof. Meier</i>	<i>Lehrbuch der Philosophie</i>		
<i>Prof. Meier</i>	<i>Lehrbuch der Philosophie</i>		
<i>Prof. Meier</i>	<i>Lehrbuch der Philosophie</i>		
<i>Prof. Meier</i>	<i>Lehrbuch der Philosophie</i>		

UUD

Fig. 2. Lecture courses that Karol Hadaczek signed up for during his studies at the University of Vienna. From the collection of the Vienna University Archive.

in archaeological research of ancient monuments in Greece, Italy, and Germany (Abramowicz 1991: 83), which became a reasonable basis for consolidating theoretical knowledge.

Later, K. Hadaczek made another attempt to return to classical antiquities. In 1909, the archaeologist became a corresponding member of the Polish Academy of Arts and Sciences in Cracow [Akademia Umiejętności]. As a member of the Academy, he was invited to participate in the excavations at El-Kubanieh in Upper Egypt. The expedition organized by the Academy of Sciences in Vienna was planned for 1911/12 and 1912/13. It was supposed to be a survey trip at state expense, hoping

to establish a separate Polish expedition for excavations in Egypt. However, it transpired that K. Hadaczek could not get to Upper Egypt and, in the end, worked at the excavations in Giza led by Hermann Junker (1877–1962; Bulyk and Lech 2009: 65). Later, it turned out that such an expedition was an impossible dream since neither K. Hadaczek himself nor his colleagues had professional training in Egyptology, to which was added not knowing of languages, lack of funds and troubles on the political horizon (Bieńkowski 1915: 193).

In 1903, K. Hadaczek returned to Lviv. At the University of Lviv, he graduated in classical archaeology and prehistory and received the position of Private Associate Professor at the University of Lviv. Having headed the department at the University of Lviv, K. Hadaczek remained the only archaeologist in this educational institution until his death (1905–1914), and he combined classical archaeology and prehistory in his teaching activities (Antoniewicz 1917: 481–488). Contemporaries and researchers of K. Hadaczek's scientific activity are still not unanimous in their assessment of his work since they equally consider him a prehistorian who "mastered [...] a perfect excavation technique" (Kostrzewski 1949: 94) and a classical archaeologist who "with the help of skilfully chosen lectures and seminar exercises at the Department of Archaeology, of which he was the head, he was able to awaken among young people a passion for the study of classical art and prehistoric culture, and over time he educated many capable adepts of these sciences" (Kostrzewski 1916: 96). This was confirmed by the educational courses he taught to university students, in particular, "Greek sculpture in the IV century BC", "Explanation of individual Roman sarcophagi", "Greek architecture", "Phidias and his school", "Review of archaeological research on the territory of former Poland", etc. (*Program* 1913: 14; Kozłowski 2006: 94–95). Some educational courses for the Department of Classical Archaeology and Prehistory taught by Professor K. Hadaczek were approved by the Viceroyalty in May 1905.⁸

The significant popularity of classical archaeology in Lviv at the beginning of the 20th century is evidenced by public lectures, which everyone could attend. Thus, we find in Lviv newspapers mentions of such activities with the participation of K. Hadaczek: "in the city's Industrial Museum, which every year organizes popular presentations in the field of arts and crafts, Prof. Dr. Karol Hadaczek will start a series of lectures on the topic: «Artistic crafts of Ancient Egypt». The presentation, followed by photo images, will take place on Sunday, January 11 of this year at 5 p.m. in the reading room of the museum (Hetman ramparts). Entrance fee 20 heller per person" (Vyklady 1914: 4). It is worth mentioning that collection of photos of classical sites in Archaeological Cabinet of the University of Lviv was formed in the 1870s

8 SALR Collection 26 (Lviv University), Inventory 5. File 336 (Personal file of Professor K. Hadaczek), p. 34.



Fig. 3. Photo of an Egyptian sculpture from the collection of the Archaeological Cabinet of the University of Lviv. From the collection of the University Library of the Catholic University of Lublin.

and was rather rich (Fig. 3). The cited fragment leads to the thought that the lectures of the Professor of archaeology were interesting, well illustrated because otherwise paid lectures could not gather an audience.

After the beginning of World War I, significant changes took place in the socio-political, cultural, educational, and scientific life of Lviv and, eventually, Galicia as a whole (Bulyk and Berest 2023: 75–104). Karol Hadaczek lived and worked at a time when archaeology was only forming as an independent scientific discipline, and its leading research directions were crystallizing. Nevertheless, he built the foundations of classical archaeology and was one of the most prominent figures of Polish archaeology in Lviv in the late 19th and early 20th centuries.



Fig. 4. Edmund Bulanda (1882–1951). From the collection of the Archive of the Polish Academy of Sciences in Warsaw.

LVIV SCHOOL OF CLASSICAL ARCHAEOLOGY IN THE INTERWAR PERIOD

After World War I, former Eastern Galicia, including Lviv, became part of Poland. Two years after the death of K. Hadaczek, the Department of Archaeology of the University of Lviv was subdivided into two independent departments – the Department of Classical Archaeology and the Department of Prehistory. From 1916 to 1939, the head of the Department of Classical Archaeology was a native of Cracow, a graduate of the Jagiellonian University, a student of Piotr Bieńkowski, a well-known expert on ancient art, Prof. Edmund Bulanda (1882–1951; Fig. 4).⁹

For over 20 years of work at the Department of Classical Archaeology, E. Bulanda trained a pleiad of classical archaeologists who later moved to Polish universities, headed departments, and became the creators of modern Polish Mediterranean archaeology. E. Bulanda's professional career in Lviv began on November 14, 1916, when, based on the petition of the Senate of the University of Lviv, he received the title of Professor

⁹ Archives of the Polish Academy of Sciences in Warsaw, File PAN III-275/2 (Kazimierz Majewski).

Extraordinary from Franz Joseph I, Emperor of Austria-Hungary¹⁰ and began to perform his duties on December 1, 1916. In the first academic year (1916/1917), the Department of Archaeology was represented only by Professor Edmund Bulanda. He supervised the seminar and, at the same time, headed the Archaeological Institute, which was situated in the old building of the University on St. Mykolai Street, 4. Zofia Wiśłocka, a student of philosophy, worked at the institution as a demonstrator, and Walenty Sagan – as an assistant (*Skład Uniwersytetu...* 1917: 52). Obviously, these young people did not connect their future with archaeology because we do not encounter their names in the following years.

Despite his prestigious education and good knowledge of classical archaeology, E. Bulanda showed himself more as an administrator than a scholar. His best student, Kazimierz Michałowski, noted in his memoirs that he “had a good education and knew well what archaeology is”, but he convincingly believed that “Bulanda did not really fully believe in the possibilities of the development of Polish classical archaeology, and therefore he gave his abilities and skills to the general organization of studies at the university” (Michałowski 1986: 48–49).

E. Bulanda devoted almost the entire War period to organizing the department. He also ensured that the Department of Classical Archaeology had financial support. In the 1920s, it was still in the same building where Karol Hadaczek's department used to be. It occupied four rooms with an area of 175 m², had an excellent library,¹¹ and a collection of plaster cast copies of ancient sculptures, equally crucial for the educational process. Later, due to the efforts of E. Bulanda, the Department of Classical Archaeology received excellent spacious rooms in the former building of the Galician Sejm, and the modest collection of plaster casts turned into a solid assemblage enriched with rarities brought from abroad (Fig. 5). In the photos from the private collection of one of the department employees, Ivan Starchuk, copies of plaster statues decorated the entire department (Fig. 6).¹²

During the interwar period, replenishment of the department's library was one of the priority tasks. Jerzy Kowalski wrote about this direction of activity of E. Bulanda: “[...] when he became a Professor of the Department of Classical Archaeology at the University of Lviv, he had to start work on the organization of this institution from the beginning because, after his predecessor [Karol Hadaczek – authors' note], who was more involved in prehistory, he received only 117 books”.¹³ The most

10 SALR, Collection 26 (Lviv University), Inventory 5, File 174 (File of Professor Bulanda Edmund, 1916–1939), pp. 5, 11–14.

11 Some of the rare publications from the pre-war period were preserved in L. Kozłowski's “separates” and are now kept in the Archive of the Department of Archaeology of the Institute of Ukrainian Studies of National Academy of Sciences of Ukraine.

12 Archive of the Archaeological Museum of the University of Lviv. Collection of I. Starchuk.

13 Archive of the Wrocław University, File RK-120 (Bulanda Edmund), p. 16.



Fig. 5. At the Department of Classical Archaeology of the University of Lviv. From left to right: Kazimierz Majewski, Volodymyr Tyss, Helena Cehak, Ivan Starchuk. Roman Petelenz-Łukasiewicz is sitting. Digital archive of the Archaeological Museum of Ivan Franko National University of Lviv.



Fig. 6. Department of Classical Archaeology of the University of Lviv. From left to right: (?), Ivan Starchuk, Edmund Bulanda, (?), Kazimierz Michałowski, Helena Cehak, Kazimierz Majewski, Roman Petelenz-Łukasiewicz, Volodymyr Tyss. Digital archive of the Archaeological Museum of Ivan Franko National University of Lviv.

important series of archaeological journals and periodicals were received here, and new monographs were purchased (Majewski 1955b: 6). Due to new arrivals, future classical archaeologists followed what was happening in classical archaeology worldwide. This is confirmed by an extensive article written by I. Starchuk and devoted to a review of the results of archaeological work conducted in Egypt, Mesopotamia, and Nubia (*J. St.* 1932: 353–360). It is also worth paying attention to the fact that Lviv classical archaeologists contributed to the appearance of translations of well-known scientific works into Polish. For example, in the late 1930s, Kazimierz Michałowski translated William Henry Boulton's monograph *The Romance of Archaeology*. In the foreword to the publication, he noted that classical archaeology is an “offensive” science, and the state's position depends on whether it researches antique monuments abroad (Baukova 2015: 192).

E. Bulanda did not have the fame of a good lecturer among students, “despite his brilliant knowledge, he did not know how to present it interestingly and methodically” (Michałowski 1986: 48). However, he supervised the work of lectures and practical archaeological classes, and also personally gave lecture courses: “Ancient Theatre”, “Apelles, Life and Works”, “Art Criticism in the Ancient World”, “History of Greek Sculpture (Part 1)”, “Greek sculpture of the 5th century”, “History of Greek sculpture of the 4th century”, and conducted an archaeological seminar (Bilas 2012: 367–377).

The sphere of scientific interests of E. Bulanda is reflected in a certain way by the content of his publications and the topics of special lecture courses, which were focused on a variety of topics, including the results of scientific research on Greek vases, the study of the peculiarities of painting, and the execution of sophisticated carvings. E. Bulanda was also interested in the organization of teaching archaeology in Poland (Bulanda 1929). It is essential that he considered it his responsibility to study objects of antiquity that were in Polish museum collections, and he carried out this work primarily in Kraków and Lviv.¹⁴ E. Bulanda's scientific articles devoted to Mediterranean civilizations of the Hellenistic period and antique art were published in the journals *Filomata*, *Eos*, and *Przegląd Klasyczny* (Sytnyk 2012: 102).

Holding leadership positions at the University of Lviv, E. Bulanda contributed to the granting of scientific scholarships to Greece and Italy to his students and thereby gathered talented young people around the Department of Classical Archaeology. Actually, all employees of the Department of Classical Archaeology were disciples of E. Bulanda. In 1924, Kazimierz Michałowski (1901–1981) was invited to the position of Junior Assistant of the department. In 1926, under the leadership of Prof. E. Bulanda, he defended his doctorate on Niobides¹⁵ in Greek art. The importance of this work is evidenced by the fact that a year later, it was published in French (Lipińska 2001: 7).

¹⁴ Archive of the Polish Academy of Sciences in Warsaw, File PAN III-27/77 (Edmund Bulanda).

¹⁵ Niobides are heroes of ancient Greek mythology.



Fig. 7. Kazimierz Majewski (1903–1981). From the collection of the Archive of the Polish Academy of Sciences in Warsaw.

After defending his doctorate, K. Michałowski received a scholarship from the Ministry of Religious Affairs and Public Education in Warsaw to continue his studies abroad. He then continued his studies in Berlin, Heidelberg, Paris, and Athens – at departments and institutes with long research traditions, significant scientific achievements, and experience in staff training and field activities (Sztetyło 2016: 257).

K. Michałowski visited many large museums in Germany, France, Denmark, Great Britain, Italy, and Greece, and participated in excavations in Athens and Crete. During the years 1927–1930, he was in several leading scientific centres, in particular, Berlin, Rome and Paris. Then he became interested in the archaeology of ancient civilizations that arose in the Mediterranean basin and its surroundings. From 1928 he participated in excavations on the Greek islands of Thassos and Delos as a foreign member of the French School of Athens. In 1929, he habilitated with a dissertation *O sztuce doryckiej* [On Doric Art] (Michałowski 1930), and became an Associate Professor at Jan Kazimierz University of Lviv (Bilas 2002: 151–156), but a year later, he moved to Warsaw.

Kazimierz Majewski (1903–1981; Fig. 7), born in the town of Berezhany, was also a talented student of E. Bulanda (Dynowski 1982: 9–13). From 1927 to 1939, he worked

at the Department of Classical Archaeology of the University of Lviv. In 1935, he obtained a habilitation degree and, until 1939, was a Private Associate Professor of the department. Every year from 1931 to 1937, K. Majewski received scholarships to work with archaeological materials in Greece, Italy, Austria, Bulgaria, France, Germany, and Hungary.¹⁶

The University of Lviv and, eventually, Prof. E. Bulanda, played a decisive role in the formation of K. Majewski as a classical archaeologist. It is worth noting that K. Majewski is one of the few Polish archaeologists who remained in Lviv after the arrival of Soviet authorities in September 1939.¹⁷ His scientific work was focused on several problems. Foremost, it is worth mentioning the unique developments of the topic of Aegean culture. In 1929, he defended his doctorate on the Aegean dance, which he interestingly connected with the culture and beliefs of the inhabitants of Crete in the Bronze Age (Press and Kolendo 2016: 154). Cycladic marble sculpture of the Bronze Age also became his passion. During his stay in Greece, he participated in archaeological excavations in Crete and the Peloponnese (Kolendo 2010: 529). A number of his articles, lectures, theses, and training of students (Ludwika Press, Karol Rutkowski), a unique monograph *Figuralna plastyka cykladzka: geneza i rozwój form* [Figurative Cycladic Art: Origin and Development of Forms] (Majewski 1935), which was his habilitation work, were devoted to this issue.

In his studies of monuments of antiquity, K. Majewski took into account and used the conclusions made by prehistorians regarding cultural and historical connections and the spread of imports of the Roman period. He devoted a large article to Trypillian plastic art, which was published in 1938 in the pages of the journal *Światowit*. He also investigated the contacts of the local population with the Roman Empire and studied the archaeology of the Black Sea cities of antiquity. In addition, K. Majewski repeatedly visited the places of excavations and also worked on museum archaeological collections in Kyiv, Odesa, and Moscow. To study the history of the ancient cities of the Northern Black Sea region better, he organized the participation of Ukrainian students from the University of Lviv in the work of the expedition in Olbia.¹⁸

Another successful student of E. Bulanda was the Ukrainian Ivan Starchuk (1894–1950; Fig. 8). Becoming a university student, this talented native of the Sub-Carpathian region, found himself among young and creative colleagues. He was connected by friendship with Jerzy Kulczycki and Kazimierz Majewski. Due to his responsibility, determination, and efforts, I. Starchuk received good conditions for studying, which he tried to use as much as possible. After graduating from the university, he worked as

16 Archive of the Polish Academy of Sciences in Warsaw, File PAN III-275/39 (Kazimierz Majewski. Materials from the Lviv period. Biography).

17 He worked at the Department of Ancient History of the University of Lviv and since January 1940 as a researcher of the Lviv Department of the Institute of Archaeology.

18 Archive of the Polish Academy of Sciences in Warsaw, file PAN III-275/39 (Kazimierz Majewski. Materials from the Lviv period. Biography).



Fig. 8. Ivan Starchuk (1894–1950). From the collection of the Archive of the Department of Archaeology of the Ivan Krypiakevych Institute of Ukrainian Studies of the National Academy of Sciences of Ukraine.

an assistant and adjunct at the Department of Classical Archaeology under Professor E. Bulanda. At the beginning of 1930, he defended his doctorate, “Ancient carvings from Villanova” (Starczuk 1930: 389–422). The researcher’s archive preserved a photo with the inscription on the back: *10.V.1930. My promotion. Commission: promoter Prof. E. Bulanda, rector H. Tramm, pro-dean A. Chybinski*¹⁹.

The work at the Department of Classical Archaeology was of great importance in the activity of I. Starchuk. During 1931–1935, he conducted practical classes with students from the “Basic Archaeological Exercises” course. Ivan Starchuk, along with Kazimierz Majewski, had the fame of one of the best students of E. Bulanda. The researcher of the scientific heritage of I. Starchuk Oleksandr Dombrovskyi noted: “[...] he must have been a good specialist in his field of knowledge if E. Bulanda, who did not like Ukrainians, hired him as an adjunct in his department”

¹⁹ Archive of the Archaeological Museum of the University of Lviv. Collection of I. Starchuk.



Fig. 9. Ivan Starchuk during his research trip to London, 1932. Digital archive of the Archaeological Museum of Ivan Franko National University of Lviv.

(Dombrovskyi 2005: 229). During 1931–1935, I. Starchuk travelled around Europe with the intention of studying museum exhibits of antique art. In 1934–1935, he studied the holdings of collections in museums in Hungary, Yugoslavia, Germany, Bulgaria, Romania, Turkey, etc. (Figs 9–11).²⁰

Since 1932, Raymond Gostkowski (1885–1966), a graduate of the Jagiellonian University, worked on his habilitation at the Department of Classical Archaeology. Then he was an employee of Stefan Batory University in Vilnius, where he initiated classical archaeology. The Council of the Faculty of Humanities of the University of Lviv, at its meeting on June 22, 1932, created a commission to study and evaluate the scientific qualities of R. Gostkowski. On June 26, 1932, the members of the commission unanimously decided to allow him to teach at the university and conduct further scientific research. In January 1935, the Minister of Religious Affairs and Public Education in Warsaw approved the habilitation of Dr. Raymond Gostkowski at the University of Lviv to the position of docent of classical archaeology (*Imenuvannia profesoriv* 1935: 6).

²⁰ Archive of the Archaeological Museum of the University of Lviv. Collection of I. Starchuk.



Fig. 10. Ivan Starchuk during his scientific travels in 1932. Digital archive of the Archaeological Museum of the Ivan Franko National University of Lviv.

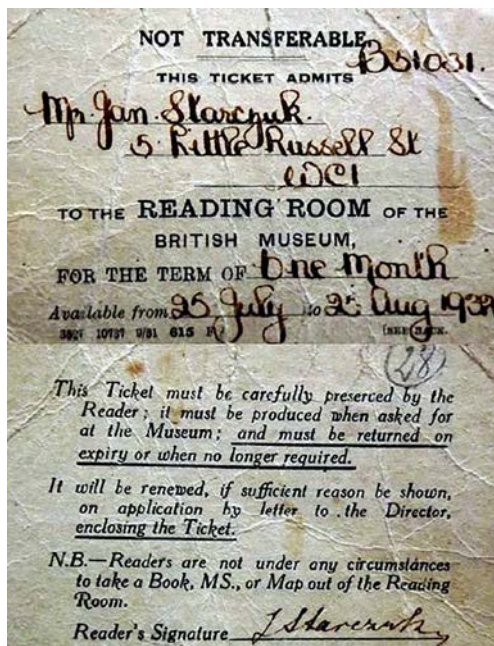


Fig. 11. Ivan Starchuk's entrance ticket to the British Museum. 1932. Digital archive of the Archaeological Museum of Ivan Franko National University of Lviv.



Fig. 12. Volodymyr Tyss and Ivan Starchuk during the expedition in 1937. Digital archive of the Archaeological Museum of Ivan Franko National University of Lviv.

At the Department of Classical Archaeology in 1932, Prof. E. Bulanda organized a photographic laboratory, which he took care of personally. He employed the famous Polish photographer from Lviv Józef Świtkowski (1876–1942), who was the author of several textbooks on photography (*UJK* 1932: 151). The Ukrainian Volodymyr Tyss (1903–1960), a non-staff assistant at the Department of Classical Archaeology, also studied under E. Bulanda. During 1933–1939, V. Tyss made photos for the departments of classical archaeology, prehistory, museums of Lviv, and voivodeship conservators.²¹ V. Tyss repeatedly went to the field as a photographer. Some of these photos have survived to this day (Fig. 12).²²

In the interwar period, the lack of qualified archaeologists was felt not only in Lviv. Data in archival documents show that the University of Warsaw tried to lure E. Bulanda to work for them. However, the University of Lviv urgently submitted to the Ministry of Religious Affairs and Public Education in Warsaw a justification

²¹ Archive of the University of Lviv, File 588 (Staff Department. Employees until 1939), p. 1.

²² Scientific archive of the Department of Archaeology of Ivan Krypiakevych Institute of Ukrainian Studies. Collection of glass plate negatives of the University of Lviv.



Fig. 13. Volodymyr Tyss and Ivan Starchuk during the expedition to Borshchiv region in 1937. Digital archive of the Archaeological Museum of Ivan Franko National University of Lviv.

in which the main emphasis was placed on the fact that the lands of former Eastern Galicia are very rich in archaeological sites, and E. Bulanda is the only classical archaeologist who has experience in the field research and therefore, Lviv should not be deprived of an only specialist. At the same time, the Council of Professors of the Faculty of Philosophy of the University of Lviv appealed to the Ministry to appoint E. Bulanda as an Ordinary Professor.²³

The Department of Classical Archaeology did not carry out large-scale works in former Galicia, but it was most often involved in research carried out by the Department of Prehistory. An example is the survey expedition to the Borshchiv region that took place in July 1937 (Fig. 13). “In two weeks, a scientific expedition led by Professor Dr. Edmund Bulanda is leaving the University of Lviv to explore the remains of Roman culture in Borshchiv district, namely the so-called «Trajan’s Walls». This expedition will research the forests between Mushkativka and Turylche in the Borshchiv region, where there are also traces of the culture of the ancient Romans”,

²³ SALR. Collection 26, Inventory 5, File 174 (File of Professor Bulanda Edmund, 1916–1939), pp. 39–40.



Fig. 14. Jerzy Kulczycki (1898–1974). From the collection of the Archive of the Department of Archaeology of the Ivan Krypiakevych Institute of Ukrainian Studies of the National Academy of Sciences of Ukraine.

wrote the newspaper *Ukrainian News* on July 6, 1937 (*Slidy rymaskoi kultury* 1937: 4). The Assistant of the Department of Classical Archaeology K. Majewski received permission for this expedition, and the Assistant of the Department of Prehistory, Markiian Smishko (Marcjan Śmiszko), was involved in the works, in addition to I. Starchuk.²⁴ In 1938, the survey results were published by K. Majewski, stressing that their goal was the study of barrows and “Trajan’s Walls” in the Podillia region. In the publication, he emphasized the significant role of classical archaeology in studying antique imports, including their stylistic analysis and the attempt to localize the place of production (Majewski 1938: 92–96).

In the report on the activities of the Department of Classical Archaeology, compiled a few weeks before the beginning of World War II in September 1939, its personnel was presented as follows: Head – E. Bulanda, Adjunct, Doctor I. Starchuk, Senior Assistant, Docent K. Majewski, Deputy Assistant K. Eugeniusz, Senior museum rider

²⁴ Stefanyk National Science Library in Lviv, Collection 26, file 42, part 5, p. 61 (Letter to the conservator of the voivodship in Lviv from the Department of Classical Archaeology. May 24, 1937).



Fig. 15. From the expedition led by Lazar Slavin to Olbia. 1940. Archive of the Institute of Archaeology of the National Academy of Sciences of Ukraine.

A. Kozłowski. A little earlier, K. Michałowski (Assistant in 1924–1933), J. Kulczycki (Assistant in 1922–1934; Fig. 14), R. Petelenz-Łukasiewicz, and others had been employees of the department (Bilas 2012: 356; Królczyk 2015: 128). As mentioned, all the Department of Classical Archaeology employees were disciples of E. Bulanda, and this was his outstanding contribution to the development of classical archaeology in Central Europe.

DURING THE WAR YEARS

The beginning of World War II hit eastern Poland at that time with a terrible wave of destruction. The Soviet occupiers introduced Sovietization through repression and various forceful methods. After the reform of the university in 1939/1940, the Department of Classical Archaeology was liquidated, and E. Bulanda was transferred to the Department of Classical Philology, where he worked for a short time (Majewski 1955a: 377–381).

In the first years of Soviet rule, E. Bulanda, K. Majewski, E. Kulczycki, and I. Starchuk were the only remaining classical archaeologists in Lviv. On February 8, 1940, the Lviv Department of the Institute of Archaeology of the Academy of Sciences of the Ukrainian SSR was established based on scientists of the liquidated Shevchenko Scientific Society and archaeologists of the reorganized University of Lviv. The department was subordinated to the director of the Institute of Archaeology, a prominent classical archaeologist, the founder of the school of Ukrainian classic archaeology, a researcher of the monuments of antiquity of the Northern Black Sea region (primarily Olbia), Lazar Slavin, who headed the institution in 1940–1945 (Cherkaska 2017: 106–110). In the first year of his activity, the department was staffed by “Junior Researchers Docent Ivan Starchuk and Kazimierz Majewski (a Pole from Lviv)” (Pasternak 1948: 38).

Classical archaeology was no longer a priority area of research. Nevertheless, I. Starchuk and K. Majewski established contacts with L. Slavin and began cooperating in research on Olbia (Fig. 15). In 1940, I. Starchuk participated in the excavations conducted by Lazar Slavin (Cherkaska 2017: 108). The following year, K. Majewski had to participate in the excavations of Olbia. However, on June 22, 1941, the Soviet-German war began, so whether this plan was implemented is unknown. In fact, during this period, we observe the decline of classical archaeology in Lviv. E. Bulanda and K. Majewski left for Wrocław in 1945, and E. Kulczycki followed them in 1946. After World War II, Lviv was incorporated into the Soviet Union.

CONCLUSIONS

During the interwar period, classical archaeology developed in Lviv around the university. A group of young and talented researchers was formed there. They excavated and studied local monuments from antiquity and deepened their knowledge by excavating archaeological sites in Greece and Italy while also studying materials in many museums worldwide. From the end of the 19th century, the young academics visited the ancient sites of the Northern Black Sea region. In particular, there were frequent visits by organized groups to Kerch, Chersonesus, and other ancient Crimean cities. Later, Lviv archaeologists I. Starchuk, K. Michałowski, and K. Majewski, together with their students, became participants in the excavations of the ancient centres on the northern coast of the Black Sea.

Until 1939, the scientists of Lviv were part of the pan-European scientific community and had access to the practical study of monuments and foreign literature. During the twenty years between the two World Wars, the Department of Classical Archaeology of the University of Lviv became the largest and most

respected archaeological department in Poland. Specialists of the highest professional level who had trained there went to different universities and headed entire areas of study of ancient civilizations.

REFERENCES

- Abramowicz, A. 1967. *Wiek archeologii*. Warszawa.
- Abramowicz, A. 1991. *Historia archeologii polskiej XIX i XX wiek*. Warszawa–Łódź.
- Antoniewicz, W. 1917. Karol Hadaczek jako prehistoryk. W drugą rocznicę zgonu. *Przewodnik Naukowy i Literacki* 6: 481–488.
- Baukova, A. 2014. Antychna arkeolohiia u Lvivskomu universyteti. *Visnyk Lvivskoho universytetu. Serii istorichna* 50: 123–138.
- Baukova, A. 2015. Roman v arkeolohii, abo halytskyi vymir shyrokooho zakhoplennia antychnistiu (XVIII st. – 30-ti roky XX st.). *Arkeolohichni doslidzhennia Lvivskoho universytetu* 19: 187–198.
- Berest, R. 1998. Karol Hadachek: shtrykhy biohrafii ta naukovoii diialnosti. *Materials and studies on archaeology of Sub-Carpathian and Volhynian area. Figures of Ukrainian archaeology* 7: 78–79.
- Bilas, N. 2002. Rozvytok arkeolohii u Lvivskomu universyteti u mizhvoiennyi period (1919–1939). *Arkeolohiia* 2: 151–156.
- Bilas, N. 2005. Arkeolohichna nauka u Lvivskomu universyteti (XIX – 30-ti roky XX st.) *Arkeolohichni doslidzhennia Lvivskoho universytetu* 8: 46–114.
- Bilas, N. 2012. Pedahohichna ta administratyvna diialnist profesora Edmunda Buliandy u Lvivskomu universyteti. *Arkeolohichni doslidzhennia Lvivskoho universytetu* 16: 350–381.
- Bieńkowski, P. 1915. Ś.p. Karol Hadaczek. *Eos* 20: 191–196.
- Bulanda, E. 1929. *Organizacja studium archeologii i historii sztuki starożytnej zagranicą i u nas*. Lwów.
- Bulyk, N. 2015. “Vmiv vin rozbudyty sered molodi zapal do vyvchennia klasychnoho mystetstva i doistorychnoi kultury”: Karol Hadachek v otsintsi suchasnykiv. *Materialy i doslidzhennia z arkeolohii Prykarpattia i Volyni* 19: 58–68.
- Bulyk, N. 2018. The Life and Work of Bohdan Janusz (1887–1930) in the Context of the Intellectual Environment of the Galicia Region. In D. H. Werra and M. Woźny (eds), *Between History and Archaeology: Papers in honour of Jacek Lech*, 403–418. Oxford.
- Bulyk, N. and Berest, R. 2023. Lviv archaeological environment during World War I. *Archaeologia Polona* 61: 75–104.
- Bulyk, N. and Lech, J. 2009. Karol Hadaczek (1873–1914) and the beginnings of archaeology in universities of the North-East borderland of the Austro-Hungarian Monarchy. *Archaeologia Polona* 47: 59–89.
- Cherkaska, D. V. 2017. Uchast L. M. Slavina v diialnosti Lvivskoi filii Instytutu arkeolohii Akademii nauk URSR. *Mahisterium* 67: 106–110.
- Dombrovskiy, O. 2005. Ivan Starchuk – vydatnyi kliasychnyi arkeoloh. *Ukrainskyi istoryk* 42(2/4): 229–233.
- Dynowski, W. 1982. Kazimierz Majewski (1903–1981). Wspomnienie pośmiertne. *Etnografia Polska* 26(2): 9–13.
- Gazeta Lwowska* 1890. *Gazeta Lwowska* Nr 155: 2.
- Hrebeniak, V. 1910. Znachinie ostannikh arkeolohichnykh zdobutkiv dlia nashoi preistorii. *Dilo* 259: 3; 261: 4.

- Hrebeniak, V. 1912. Ukraina – Helliada. Vzaïemyny u peredistorychnii dobi. *Dilo* 46: 4; 47: 4; 48: 3.
- Hrebeniak, V. 1913. Skytska kultura. *Dilo* 220: 3.
- Imenuvannia profesoriv...* 1935. Imenuvannia profesoriv vyshchykh shkyl u Lvovi. *Dilo* 13: 6.
- J. St.* 1932. Przegląd wykopalisk archeologicznych. *Kwartalnik Klasyczny* 6: 353–360.
- Kolendo, J. 2010. Kazimierz Majewski we Lwowie – okres kształtowania się osobowości naukowej badacza. In S. K. Kozłowski and O. Sytnyk (eds), *Profesor Leon Kozłowski*, 526–540. Lwów–Warszawa.
- Kostrzewski, J. 1916. Karol Hadaczek i jego działalność naukowa. *Kosmos* 41: 95–99.
- Kostrzewski, J. 1949. *Dzieje polskich badań prehistorycznych*. Poznań.
- Kozłowski, S. K. 2006. Volodymyr Antonievich i Karol Hadaczek. *Arkheolohichni doslidzhennia Lvivskoho universytetu* 9: 89–96.
- Królczyk, K. 2015. Historia starożytna na Uniwersytecie Jana Kazimierza we Lwowie w okresie międzywojennym. In L. Zashkilniak and P. Sierzhenga (eds), *Istoriia ta istoryky u Lvivskomu universyteti: tradytsii ta suchasnist (do 75-littia stvorennia istorychnoho fakultetu)*, 122–132. Lviv.
- Lech, J. 2006. Z badań polsko-ukraińskich związków w archeologii do II wojny światowej. *Przegląd Archeologiczny* 54: 5–59.
- Lipińska, J. 2001. Kazimierz Michałowski. *Bulletin du Musée National de Varsovie* 42(1–4): 7.
- Majewski, K. 1935. Figuralna plastyka cykladzka: geneza i rozwój form. *Archiwum towarzystwa naukowego we Lwowie* VI(3): 1–162.
- Majewski, K. 1938. Badania terenowe Zakładu Archeologii Klasycznej U.J.K. w powiecie borszowskim. *Eos* 39: 92–96.
- Majewski, K. 1955a. Edmund Bulanda (28.X.1882 – 15.IV.1951). *Archeologia* 5: 377–381.
- Majewski, K. 1955b. Edmund Bulanda. *Sprawozdania Wrocławskiego Towarzystwa Naukowego* 6: 4–10.
- Michałowski, K. 1930. O sztuce doryckiej. *Kwartalnik Klasyczny* 4(1–2): 169–203.
- Michałowski, K. 1986. *Wspomnienia*. Warszawa.
- Pasternak, Y. 1948. Naukove tovarystvo im. Shevchenka v chas druhoi svitovoi viiny. *Sobochasne i mynule* 1: 37–40.
- Pilcz, S. 1933. Ludwik Ćwikliński: 80-lecie urodzin i diamentowe gody z nauką. *Kwartalnik Klasyczny* 7(4): 15–44.
- Press, L. and Kolendo, J. 2016. Kazimierz Majewski (1903–1981). *Monumenta Universitatis Varsoviensis. Portrety uczonych. Profesorowie Uniwersytetu Warszawskiego po 1945 L–R. 1816–2016*, 154. Warszawa.
- Program* 1913. *Program wykładów w półroczu zimowym 1912/1913. C. K. Uniwersytet imienia Cesarza Franciszka I we Lwowie*. 1913. Lwów.
- Skład Uniwersytetu...* 1917. *Skład Uniwersytetu w roku akademickim 1916/1917*. Lwów.
- Sklenář, K. 1983. *Archeology in Central Europe: the First 500 Years*. Leicester.
- Slidy rymaskoi kultury...* 1937. Slidy rymaskoi kultury u Skh. Halychyni. *Ukrainski visty* 147: 4.
- Starczuk, I. 1930. Les sculptures antiques de Wilanów. *Eos* 32: 389–422.
- Sytnyk, O. 2012. Arkheolohichna nauka u Lvovi. Persha polovyna XX st. Lviv–Rzeszów.
- Sztetyło, Z. 2016. Kazimierz Michałowski (1901–1981). *Monumenta Universitatis Varsoviensis. Portrety uczonych. Profesorowie Uniwersytetu Warszawskiego po 1945 L–R. 1816–2016*, 257. Warszawa.
- UJK* 1932. *Program wykładów oraz skład. 1932/1933*. Lwów.
- Wykłady 1914. Wykłady v miskim Promyslovim muzeiu. *Dilo i Nove Slovo* 10: 4.

Under the Shadow of Conflict: Understanding the Belligerent Landscapes of the Kyiv Triangle

Oleksandra Ivanova^a and Ivan Zotsenko^b

The article examines the defence system of the city of Kyiv in different historical periods, focusing on the territory of the immediate outskirts of Kyiv – the Kyiv triangle – the northern part of the Kyiv Plateau. From the moment the city of Kyiv was founded until the events of the Russian-Ukrainian war of the 21st century, the unique topography of the microregion was used to build the city's defence systems. Today, in the region covered by this study, there are the remains of the ancient “Serpent Ramparts”, fortifications of hillforts and cities, the remains of Cossack, Polish and Moscovian forts, redoubts and outposts, pillboxes from the time of the Second World War, modern military fortifications. All these different types of archaeological monuments form a unique belligerent landscapes that require comprehensive research and protection.

KEY-WORDS: belligerent landscapes, Kyiv triangle, Serpent Ramparts, defence system, fortifications, Kyiv Fortified Region, Russian-Ukrainian War

INTRODUCTION

This article is devoted to the defence system of the city of Kyiv in different historical periods. In our field of vision came sites and monuments that were formed from the moment of the city's creation and the need to protect it as a political and economic centre. The question of the origin of Kyiv still causes lively discussions, which are outside the topic of the work, therefore the chronology of our research starts with the 10th century.

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To understand the conditions that preceded the formation of defensive lines, it is necessary to consider the geography of the microregion. The city of Kyiv is located on the territory of the Kyiv Plateau. This is an elevated section of the Cysdnipro Upland, which lies on the right bank of the Dnipro. The highest point of the Kyiv plateau is considered to be 241 metres above sea level. The Kyiv Plateau stretches along a narrow strip on the right bank of the Dnipro River, from the northwestern part of Kyiv to Kaniv, Cherkasy Region. The mouth of the Ros River is considered the southernmost point of the Kyiv Plateau. The total length from north to south is about 180 km. Erosive landforms such as ravines and gullies prevail. Denudational transport of rocks by the Dnipro River has taken place. The most common forms of relief are those formed as a result of water erosion (fluvial and glacial forms of relief, as well as gravity forms (landslides and collapses – mainly on the far right bank of the Dnipro), the formation of which is also influenced by the Coriolis force. The Kyiv plateau is heavily incised by permanent water streams. The rivers are the main relief-forming factors of this area. The mouths of the rivers: Irpin, Lybid, Vita, Stuhna, Krasna, Bobrytsia, Skvirka, Leglych and Ros lie on the plateau. The Ukrainian Crystalline Massif is the basis of the tectonic structure of the plateau (Marynych 1989–1993).

In this study, we consider the northern part of the plateau, which is separated from the surrounding area by the already mentioned rivers Irpin, Stuhna, Vita and, of course, the Dnipro. This territory has received the conventional name Kyiv triangle¹ (Fig. 1).

In addition to being located at the intersection of a large watershed route from west to east with a large water transport artery – the Dnipro River (length 2201 km), this part of the plateau occupies parts of two major European landscape zones: the Forest and Forest Steppe, a fact that had a positive effect on its economic development. The fertile black earth soils of the forest-steppe zone have long supported a high culture of agriculture here, and the large reserves nearby of swamp iron ore, slate, limestone and other minerals, caused the development of crafts, and as a result – trade (Tolochko 1980: 114).

The need to defend the political and economic centre of Kyivan Rus prompted the development of a unique defence system for the capital.

KYIVAN RUS, 10TH–13TH CENTURIES

We will start with the defence system of Kyiv, which developed in the period from the 10th to the first half of the 13th century, namely before the devastation of Kyiv by the Golden Horde.

¹ Kyiv triangle – northern part of the Kyiv Plateau, which was surrounded by rivers Irpin, Stuhna, Vita, Dnipro and created a natural defense line for the territories inside of it.

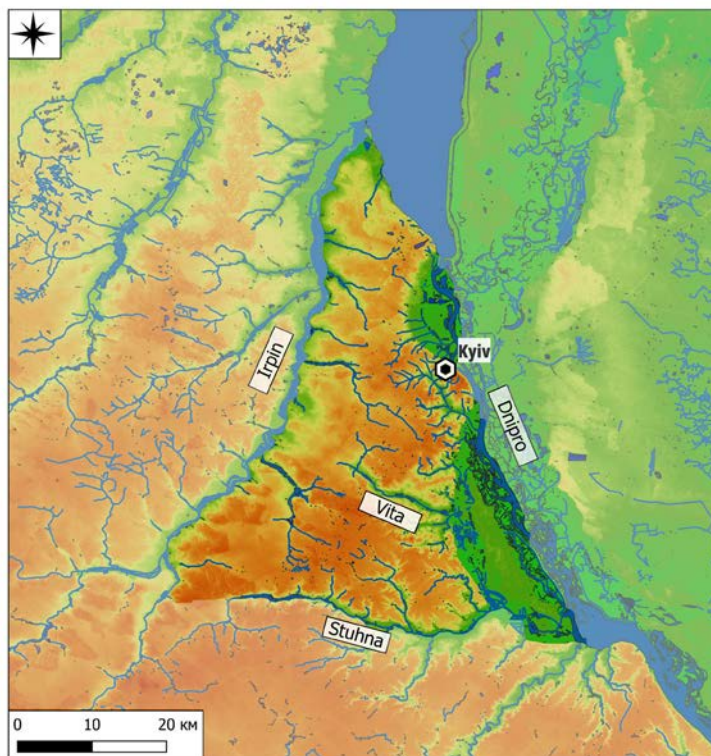


Fig 1. Kyiv triangle on a map. Graphics: Authors.

The territory of the city and land routes to it were already demarcated by natural boundaries – river valleys, which became the basis of the defence system. The valley of the Irpin River demarcates the approaches to Kyiv from the west and north, and the Vita and Stuhna rivers – from the south, the Dnipro protects the approaches to the city from the east. These rivers formed natural obstacles to movement, but the crossings of these rivers therefore became major infrastructure nodes that needed to be protected and controlled. The city was defended by the construction of additional fortifications. In a large area around the city, including in the Kyiv triangle, defensive structures of two types arose during the 10th–13th centuries. The first was the construction of hillforts and cities (surrounded with various types of wooden-earthen walls, ditches and escarpments). The second was the construction of massive earthen embankments, the so-called *Zmiiovi walls* (Serpent Ramparts)



Fig 2. Zmiiiv Walls (Serpent's Ramparts) within the Kyiv triangle. Photo from open sources.

located along large rivers and under their direct protection, while other embankments crossed the spaces between the rivers (Fig. 2).

For the era of Kyivan Rus, ramparts were the most effective means of protection against nomads, they were a serious obstacle that widely blocked the ingress of a mobile light cavalry. Ramparts created a danger for the enemy both when approaching Kyiv and on the way back, and facilitated their pursuit by the defenders of the city (Tomashevskyi *et al.*, 2023: 170).

The Ramparts have been repeatedly studied by scientists V. B. Antonovych, A. S. Buhai, M. P. Kuchera, A. V. Borysov and others (Antonovych 1884: 355–370; Buhai 2011; Tomashevskyi *et al.*, 2023: 166–176) There are several versions regarding the period of their construction and operation. However, in our opinion, the most relevant today is the work of M. P. Kuchera *Serpent ramparts of the Middle Dnipro*. While working on this book the author conducted archaeological research on 69 areas of the Ramparts. (Kuchera 1987: 197).

The Serpent Ramparts are wooden and earthen defence structures in the form of long ramparts. The total length is more than 950 km. They were built during

the 10th–11th centuries. In some places earlier (for example, Scythian) defensive fortifications were included in the rampart system. On the right bank of the Dnipro, ramparts were laid along the river valleys – Vita, Stuhna and Ros that cut off Kyiv from the steppe from the south – on their eastern side (the side of the capital). They had the function of redirecting the cavalry that was advancing on Kyiv, towards the locations of fortified cities and settlements.

Not counting Kyiv itself, on the territory of the Kyiv triangle, we know about seven well-fortified towns of the Kyivan Rus period: Vyshhorod, Bilhorod, Peresichen, Vasyliv, Tropol, Khalep, Chornyn and about 10 hillforts: Demydiv, Zhornivka, Budaivka, Vita Poshtova, Zvenyhorod Kyivskyi (Feofania), Khodosivka, Krasen, Tumashch, Zarichchia, Plesetske. A special place in this system is occupied by two hillforts on the left bank of the Dnipro – Protsiv and Horodets PISOCHNY, which are located at river crossing points and were directly connected to the capital. In the same territory, two lines of the Serpent Ramparts are known – the line stretching from the Irpin River's right bank, along the Vita River's left bank to the Dnipro valley. In historiography, the name Bobrynsko-Vitianska Line has been attached to this section of the defences. The second line stretches from the right bank of the Irpin River, along the left bank of the Stuhna River to the Dnipro valley. The total length of earthworks in these areas was approximately 95 km.

At the time of the Siege of Kyiv in 1240, the city's defence system consisted of 95 km of serpentine ramparts and 19 fortresses located at river crossings and watersheds. This defence system was effective against short-term raids by nomads (Pechenegs and Polovtsians, whose goal was robbery, but not land capture), or during internal internecine conflicts. However, this system was not viable against the strategy and tactics of the military operations of Batu Khan's troops. The Golden Horde aimed to seize territories and the number of military formations (according to various estimates from 40,000 to 120,000 people; Wortman 2004: 25–27) significantly exceeded the defence capabilities of the Kyivan Rus principalities. In 1239, Batu's troops captured Pereiaslav and Chernikhiv, after which they moved to the left bank of the Dnipro and, by the autumn of 1240, crossed the Stuhna and Bobrynsko-Vitianska lines of the Serpent Ramparts, devastated and destroyed most of the fortresses on the southern side and besieged Kyiv. On December 6, 1240, the city was captured.

THE “TREATY OF PERPETUAL PEACE”, 1686

It is important to note that most of the Kyivan Rus sites were used several centuries later during the Cossack Hetmanship. We can trace this using the example of the early medieval settlement in Demydiv, on the north of the Kyiv triangle. In the same village, during the Hetmanship, a garrison and customs post appeared.

We can see the same situation in the south, for example in Trypillia. In the times of Kyivan Rus, the town of Trepol was known here, and played a rather significant role in those times, being considered a “water gate”. Near it merchant ships that travelled on the Dnipro, were moored. Trepol was also an important fortification that protected Kyivan realms from attacks by the Pechenegs, and later by the Polovtsy.

Already after the Union of Lublin in 1569, a Polish garrison was stationed in Trypillia. In the 17th century, the Polish authorities built the Trypil fortress there, with stone and brick walls, the remains of which have been preserved to this day.

In the 17th century, a powerful fortified district was developing around Kyiv across the entire region of the “Kyiv triangle”. This was connected with the liquidation of the Cossack Hetmanate and the delineation of a boundary across the region.

In 1686, after the signing of the so-called “Treaty of Perpetual Peace” between Moscovia and the Polish-Lithuanian Commonwealth, the spheres of influence over the Hetmanate were divided into two parts. According to the annals of Samiilo Velychko, which describes the text of “Perpetual Peace”, Article 3 of the Treaty states that the entire territory of the Left Bank of Ukraine was to remain under the suzerainty of the Russian Tsar. However, Kyiv, located on the right bank of the Dnipro (which still belonged to the Polish-Lithuanian Commonwealth), also came under the authority of Moscovia with the surrounding lands.

In the annals, Moscovia’s possessions on the right bank are described in such a way that Kyiv remained on the tsar’s side with the following demarcation: from the mouth of the Irpin River and its confluence with the Dnipro, down the Dnipro to the towns of Trypillia and Staiky, and from there to the Stuhna River, through the city Vasylkiv, from Vasylkiv a line was to be built to the Irpin River. In this way, all the listed lands remained to Moscovia and demarcated Kyiv with peculiar landscape fortifications. (Velychko 1991: 313–315).

The Kyiv triangle began to fulfil its role of protecting Kyiv, but no longer within the state itself, or as a border between the nomadic and civilised world, but as a border between the two states of Moscovia and the Polish-Lithuanian Commonwealth. According to the agreement, the city of Kyiv went to the Moscovia Empire, but the latter understood that it was impossible to hold the city without controlling the strategically important territory of the Kyiv triangle. As a result, the border is drawn along the above-mentioned rivers – Stuhna and Irpin.

However, this division did not happen in one day, and as a result of numerous peasant uprisings, the Tsar’s decrees of eviction and mass resettlement of residents, the border remained quite mobile for the next decades, and the border towns and villages stood empty. Even at the time of the signing of the Treaty of Andrusovo, this territory was assigned to the Moscow state, nevertheless, it was the site of many important battles, which led to the devastation of the lands and the extermination

of the local population. For example, according to the data of the Moscow military statistician of the Kyiv district, Prince Yuriy Urusov, in 1686 the towns and villages located on the border stood empty – Kagarlyk, Deremezna, Germanivka, Germanivska Slobidka, Usachivka, Hryhorivka, Kopachiv, Mali and Velyki Dmytrovychi, Stari and Novi Bezradichi, Trypillia.

Since these territories were border areas and there was a need for their protection and control, the construction of fortresses, customs posts and outposts began.

Thus, in 1686, the village of Mytnytsia appeared on the Moskovskyi tract, establishing a border on the road leading from Kyiv to Bila Tserkva, where customs posts were established. From that time, a small garrison from the Polish and Russian sides was constantly located at Mytnytsia (Pokhilevich 2005).

The existence of customs posts is also mentioned in the “Register of Ports and Borders Customs” compiled later (in 1756). In particular, in the Kyiv governorate, there are the following: at the Vasylykiv outpost, two small customs posts, Mezhihirska and Staikivska, above and below the city on the Dnipro River, where this river defines the Russian and Polish borders.

We can find records of most customs houses, outposts and fortresses on maps of both Russian military, topographers and foreigners. In particular, in the middle of the 18th century, there were several attempts by the Russian government to clearly define and measure the border between the two states. In 1749, we have a detailed description of the important southern section of the Polish-Ukrainian border along the Stuhna River and the areas adjacent to it, based on the map of 1748 by Oleksandr Rigelman, a Russian military engineer. According to the map, the border ran from Vasylykiv to the Ostrytskyi outpost, then along the Stuhna and Orshynka rivers, Hlybokyy Yar, along the Bilotserkiv road to the Polish town of Germanivka, to the Berestova and Altanka rivers, which again flowed into the Stuhna, passed near the village of Obukhiv, Sovshchyna outpost, to the village Neschuriv (Gurdzhii 1996: 71).

A more detailed recording of the entire section of the Polish-Russian border on the right bank of the Dnipro can be found on the map of the Italian topographer and geographer Giovanni Antonio Rizzi Zannoni, commissioned by the rulers of the Polish-Lithuanian Commonwealth. The section of the border that we are interested in is located in the atlas “Map of Poland, divided into regions and voivodships, as well as districts, reproduced according to numerous demarcations, observations and measurements made on the ground”, on sheet No. 16, which contains a map of the borders of Poland and Russia, which covers part of Northern Ukraine, the course of the Dnipro from Kholmeh to Kyiv, the Desna, Seim and other, less important rivers. The inscription on the map is “Ukraina Moskiewska”. In the map description, it is written that these are the lands lying on the Dnipro interfluvium (Fig. 3).



Fig 3. Map of the Italian topographer and geographer Giovanni Antonio Rizzi Zannoni, which shows the border between the Moscovian state and the Polish-Lithuanian Commonwealth after 1686.

Of course, the border did not remain stable, and small villages and towns constantly changed hands. The Polish-Russian border was distinguished by its instability: bilateral conflicts, territorial claims, underground migrations, smuggling, and Haidamak movements. On the border outpost turnpikes, large detachments monitored the crossing of the Russian-Polish border. Border movements occurred in the south, in the area of the Stuhna River, while the western border along the Irpin River remained stable.

Thus, we can conclude that the Kyiv triangle continued to play its extremely important role as a special landscape around Kyiv, for the protection of the city. Several fortresses, outposts, redoubts and customs houses were built on the roads and crossings, just as in the Kyivan Rus period.

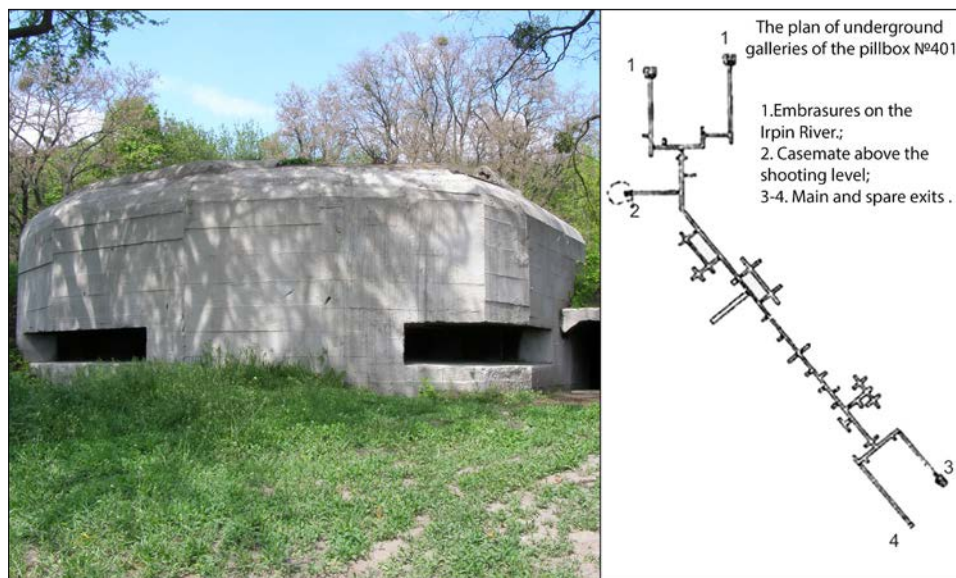


Fig 4. Pillbox № 401 on the Irpin River. Photo from open sources.

KYIV FORTIFIED REGION, 1929–1945

The next time these natural borders were used to build the defence system of Kyiv was the first half of the 20th century – more precisely, in 1929–1945. Starting in 1929, the Soviet authorities began mass construction of defence lines; the defence system around Kyiv was called the Kyiv Fortified Region.

The Kyiv Fortified Region was a system of defensive structures, long-term and field fortifications, engineering barriers, and artillery positions. The line of defence ran from the Dnipro along the Irpin River to Bilohorodka and further east along the left bank of the Vita River – through the settlements of Vita-Poshtova, Lisnyky, Mryhy and reached the Dnipro River on the left flank.

The Kyiv Fortified Region was divided into 14 battalion districts. The total length of the front edge of the fortifications was 85 kilometres, and the depth of the defensive strip was up to five km. A total of 217 long-term firing points (pillboxes) were built. They were grouped to form strongholds of 6–15 pillboxes (Fig 4).

Mainly, machine gun pits with 1–4 embrasures were built. To strengthen the defence, after 4–5 machine-gun pits, long-term artillery structures were erected – semi-caponiers with two guns, which were built to flank the large floodplains of rivers

or stationary artillery positions. In addition, command posts were built, platforms for installing machine guns, shelters for people and ammunition. Garrisons of pillboxes, depending on the type, consisted of 5–16 men under the command of lieutenants. These structures were built from reinforced concrete and the thickness of the walls of pillboxes reached 150 cm (Kainaran *et al.*, 2011).

It is also interesting for us that, in addition to using the landscape as a line of defence, some bunkers of parts of the Kyiv Fortified Region were built in the fortifications of Kyivan Rus hillforts and settlements (Bilohorodka, Vita-Poshtova, and others), in the fortifications of fortresses and defensive structures of the 17th century (Romanivka, Shevchenkive) and even in the Bobrynsko-Vitianska Line of the Serpent Ramparts.

During the Second World War, the Kyiv Fortified Region line was able to restrain the invading German troops on this part of the front for 72 days, which significantly impacted the implementation of the “Barbarossa” offensive plan. At the same time, from 7 July 1941 to 19 September 1941, the battle for Kyiv lasted. The German troops quickly reached the western border of the Kyiv Fortified Region, the valleys and the Irpin River, but they did not have much success here. The southern direction, on which the main attack was concentrated, turned out to be the weakest part of Kyiv’s defence. After protracted battles, the Soviet troops were allowed to retreat from Kyiv.

According to data published in 1993 by the General Staff of the Armed Forces of the Russian Federation, Soviet losses amounted to more than 700,000 people, of which 627,800 were irretrievably lost (Krivosheev 1993). The Battle of Kyiv became one of the bloodiest in the history of the Second World War, in terms of the number of casualties, second only to the battles for Moscow and Stalingrad, which took place later.

THE FULL-SCALE RUSSIAN INVASION OF UKRAINE. BATTLE FOR KYIV 2022

Another chapter in the defence of Kyiv began in the 21st century, during the recent full-scale Russian invasion of Ukraine and, in particular, the offensive on Kyiv. Even during modern war, the topography of the Kyiv triangle continues to play its natural role in the defense of the capital.

The offensive of Russian forces in 2022 took place from the northwest, from the Chornobyl exclusion zone and Belarus. The battle for Kyiv lasted from February 24 to April 2, 2022, Russian troops were able to advance on the right bank only to the valley of the Irpin River, as had been the case with the German troops in 1941. In the northern part of the Kyiv triangle on February 25, a dam was blown up on

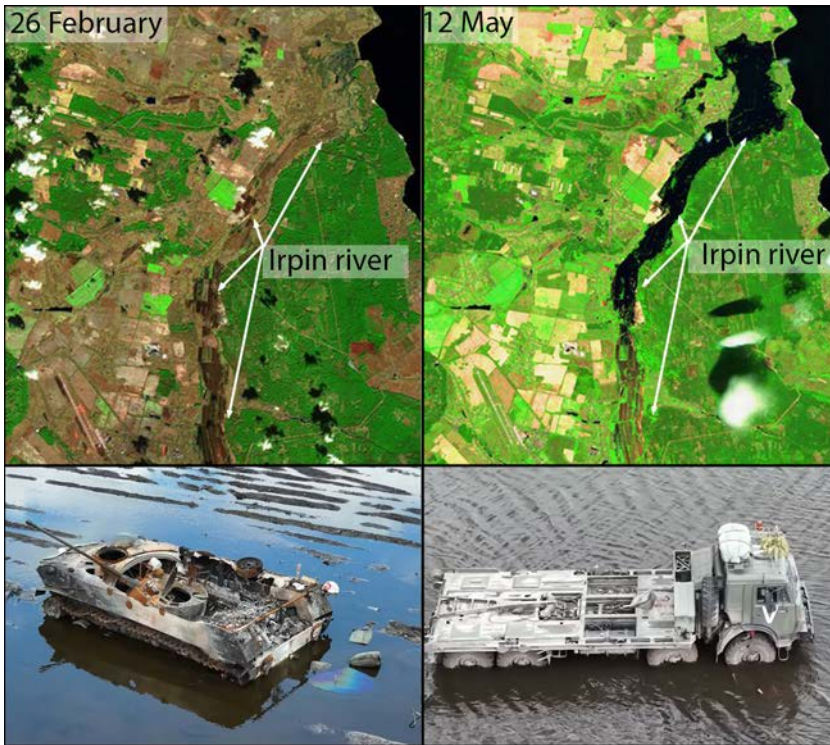


Fig. 5. Flooding of the Irpin River, after the dam was blown up, which stopped the advance of Russian troops on Kyiv in 2022. Satellite images. Graphics: Authors.

the Irpin River, as a result of which the river valley was flooded (which has stopped happening in recent decades due to the development of the canal system; Fig 5). As a result, in particular, the village of Demydiv, which was a famous settlement and an important northern outpost of Kyiv in Kyivan Rus times, was flooded. In the times of the Cossack Hetmanship, as mentioned above, there was a famous customs house here, which was also on the northern route to Kyiv.

There were also unsuccessful attempts to ford the river in the villages of Moshchun and Romanivka. Heavy fighting for the towns of Irpin and Bucha prevented the invaders from advancing to the river. The Russians reached the village Bilohorodka, but they were unable to start an offensive in this part due to dense artillery fire, which was coming from the Dytynets (central fortified part of a stronghold) of the Kyivan Rus city of Bilhorod (nowadays the village of Bilohorodka). The Irpin River and the control of the crossings through it once again played one of the key roles in the defence of the city.

The southern part of the Kyiv triangle – the weakest link in the capital's defence system according to our observations, was attacked by troops (not counting air and missile attacks) only in Vasylkiv. From February 26 to 28, 2022, several groups of landing forces landed in Vasylkiv and the surrounding villages, but they failed to capture the airfield or gain a foothold. The Russians also tried to reach the left bank of Kyiv at a fast pace but were stopped in the town of Brovary (the western outskirts of the modern city of Kyiv). After an unsuccessful attempt to quickly seize the capital, Russian troops retreated (Sonne *et al.*, 2023).

Currently, we are recording, with the help of satellite images and open sources, numerous cases of construction of military-engineering infrastructure (including fortifications) within the Kyiv triangle, which is taking place following the order of the Commander-in-Chief of the Armed Forces of Ukraine to increase the defence capacity of the capital.

CONCLUSION

Summarising what was stated in the work, we can say that the unique topography of the northern part of the Kyiv Plateau, its water network and the intersection of two different landscape zones of Forest and Forest Steppe made this an area already protected by natural boundaries. The primary analysis of the processed data shows us that the landscape or topography of certain locations was convenient for the formation of belligerent landscapes, and this legacy can be traced back to the time of the construction of Scythian fortifications. Starting from Kyivan Rus times, from the moment the city of Kyiv was founded, anthropogenic belligerent landscapes have been created on this territory.

In 1974, the founder of the science of anthropogenic landscape studies, F.M. Milkov, suggested that all landscape complexes of military origin be combined into a special class of anthropogenic landscapes under the general name belligerent landscapes (from the Latin *beligero* – to wage war). Term “belligerent landscape” and “belligerent landscape complex” can be understood as any landscape complex of military origin, regardless of their method of creation, age and features of modern functioning. Modern approaches to the preservation of belligerent landscapes should be based on two main principles: the indivisibility of natural and cultural heritage and their spatial combination (Denysyk 2017: 13–16).

This is exactly what we see in the example of belligerent landscapes formed as a result of the construction of defence systems in the middle of the Kyiv triangle in different cultural and chronological periods (Fig. 6). Such landscapes include:

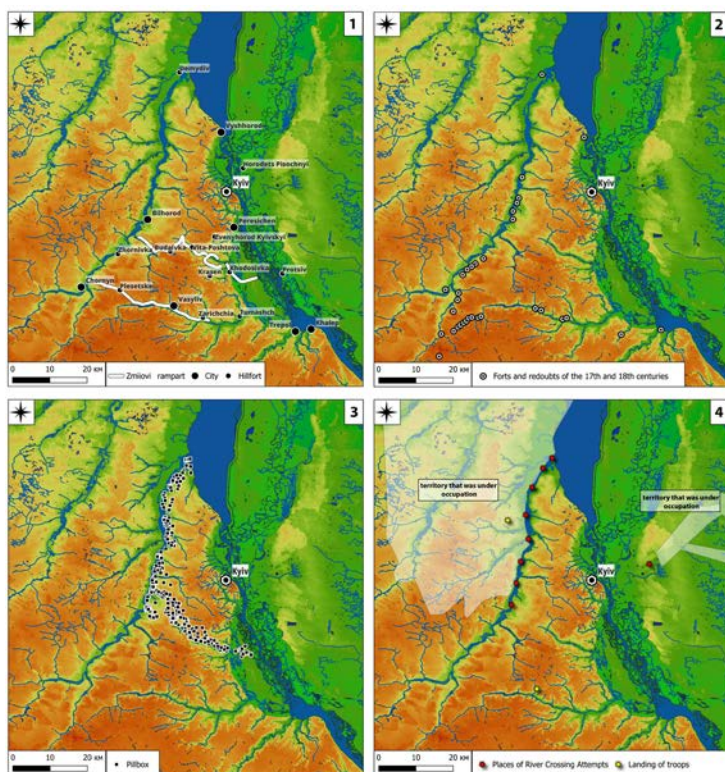


Fig. 6. Localization on the map of belligerent fortifications of different centuries. Graphics: Authors.

- “Serpent Ramparts” of the 10th–13th centuries;
- Fortification of Kyivan Rus settlements and cities (lines of ramparts, ditches, escarpments, egress groups and towers) 10th–13th centuries;
- Cossack, Moscovian and Polish fortresses, redoubts and border outposts of the 17th–18th centuries;
- Fortification of the Kyiv Fortified Region (pillboxes, artillery positions) 1929–1945;
- Modern dugouts, trenches, anti-tank trenches and artillery positions 2022 – ?

Analysing this material, we must understand that the need to defend the city of Kyiv may also arise in the future, due to which the territory of the Kyiv triangle will be supplemented with new types of belligerent landscapes, especially in places

of watersheds and bridges/crossings across rivers. Today, there is a need to carry out rescue and research work on many archaeological sites of various times, which have suffered as a result of the military invasion of the Russian Federation, and to carry out a number of preventive archaeological studies in places of possible development of military engineering infrastructure. In 2022–2023, employees of the Institute of Archaeology of the Ukrainian Academy of Sciences (from the “Monitoring Archaeological Expedition of the Institute Created to Record Archaeological Monuments Damaged as a Result of the Military Aggression of the Russian Federation”) recorded damage to the monuments of the Kyiv triangle in the territory of more than 2,000 m² (Fig. 7). All these measures are necessary not only to obtain and preserve archaeological information but also to preserve the unique, centuries-old defence complexes of the capital of Ukraine.

Today, we are conducting active archaeological research related to the monitoring of archaeological sites damaged during the War. Therefore, in future publications, we plan to present the results of these studies more vividly, expand the time frame of the study, and present the classification and list of sites of the belligerent landscapes by period. We have started work on a full-fledged GIS map, with the archaeological sites of belligerent landscapes plotted on it. Also, the studied topic will be included in the PhD thesis of both co-authors of this article and will be developed by the authors in different directions.

REFERENCES

- Antonovych, V. B. 1884. Zmiiyvy valy v predelakh Kievskoi zemli. *Kievskaiia starina*, VIII (mart): 355–370.
- Buhai, A. S. 2011. *Zmiiovi valy: zbirnyk materialiv naukovykh doslidnytskoi spadshchyny*. Kyiv.
- Denysyk, G. and Antoniuk, O. 2017. Naukove i prykladne znachennia doslidzhennia belihieratyvnykh landshaftiv. *Bulletin of Taras Shevchenko Kyiv National University. Military special sciences* 1(36): 13–16.
- Gurdzhii, O. I. 1996. *Ukrainska kozatska derzhava v druhii polovyni 17–18 st.: kordony, naseleennia, pravo*. Kyiv.
- Kainaran, A. V., Kreshchanov, A. L., Kuzyak, A. H. and Yushchenko, M. V. 2011. *Kiyevskiy ukreplennyi rayon 1928–1941*. Zhytomyr.
- Krivoshchev, G. F. 1993. *Grif sekretnosti snyat: Poteri Vooruzhennykh Sil SSSR v voynakh, boyevykh deystviyakh i voyennykh konfliktakh*. Moscow.
- Kuchera, M. P. 1987. *Zmiiyvi valy Serednoho Podniprovia*. Kyiv.
- Marynych, O. M. (ed.) 1989–1993. *Heohrafichna entsyklopediia Ukrainy*. Kyiv.
- Pokhilevich, L. (ed.) 2005. *Skazaniye o naseleennykh mestnostyakh Kiyevskoy gubernii ili statisticheskiye, istoricheskiye i tserkovnyye zametki o vsekh derevnyakh, selakh, mestechkakh i gorodakh, v predelakh gubernii nakhodyashchikhsya*. Bila Tserkva.
- Sonne, P., Khurshudyan, I., Morgunov, S. and Khudov, K. 2022. *Battle for Kyiv: Ukrainian valor*,

Russian blunders combined to save the capital. Electronic document: <https://www.washingtonpost.com/national-security/interactive/2022/kyiv-battle-ukraine-survival/?itid=hp-top-table-main-t-2>. Last access: 4.12.2023.

- Tolochko, P. P. 1980. *Kyiv i Kijevskaya zemlya v epokhu feodal'noy razdroblennosti XII–XIII vekov*. Kyiv.
- Tomashevskiy, A. P., Borysov, A. V., Hnera, V. A., Korol, A. V. and Mysak, V. M. 2023. Zmievy Valy. The present: scientific issues, tasks and perspectives. *Archaeology and Early History of Ukraine* 48(3): 166–176.
- Velychko, S. V. (ed.) 1991. *Samiylo Velychko Litopys*. Kyiv.
- Wortman, V. 2004. Vzyatiye Kiyeva mongolami. *Warrior* 16: 25–27.

DISCUSSIONS AND CRITICISM

Archaeology and Commerce: Olbia *Dolphins* on the Global Antiquities Market

by Paul M. Barford^a

The original promise of the internet was that it could have served as a tool whereby the general public could access, a single mouse-click away, unlimited amounts of reliable open access archaeological information supplied by academia or the museum world. This vision is in practice frustrated by the current form of that resource. Since changes that started taking place from 2015, the internet has increasingly been developing primarily as a commercial tool of modern capitalist trade. The casual searcher for information on a large range of archaeological phenomena will therefore primarily be faced with page after page of adverts offering examples of archaeological artefacts for sale and texts about their private collection.

The first online sales of “portable antiquities” took place in 1995, and by about 2000–2010 this had caused a rapid and massive expansion not only of the antiquities market itself (Brodie 2017), all but replacing its other forms and venues, but also increasing its public visibility. This has had three main effects, firstly this directly affects the way that the general reader will perceive archaeology and the function of archaeological artefacts, not as potential evidence, but commercial goods and objects of desire. The second is that, due to the rate and extent this commerce has encouraged the emptying of accessible parts of sites, many of the places where archaeological material are detectable and within reach are being disturbed, damaged or even destroyed as a source of archaeological information. The third effect which is not without significance is that at the present time, there is a huge number of artefacts on the antiquities market (and through it reaching scattered ephemeral personal collections, with some of the latter material later entering museum collections). The quantity of this body of material is often far greater than the number of items of the same kind held in excavation archives or in the published literature generated by fieldwork.

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It may be posited that the bulk of the material on the market is potentially doubly-illicit, having been clandestinely and probably extra-legally excavated, and also moved from the source country to an external market with no documentation of adherence to the correct export procedures (therefore the legality of its subsequent transfer of ownership is questionable). When archaeologists take note of this body of material, it is usually only the latter elements that dominate the discussion. Despite this, the phenomenon of the passage of such a large body of archaeological material through the market and hands of collectors as consumer goods is also an archaeological process, affecting the information available about the past, and as such also warrants attention in its own right. Any attempt to study the wider body of material (i.e., including that from collections) requires understanding how finds flow through the market and how the market affects the available material.

This paper takes a closer look at some aspects of these processes by attempting a preliminary Commercial Flow Analysis (CFA) of the so-called dolphin coinage issued in and around the ancient Greek *polis* of Pontic Olbia (Olvia), on the NW coast of the Black Sea in Ukraine. It is a distinctive group of archaeological artefacts that derive from a particular and easily identifiable source, and are relatively commonly found in the antiquities market and popularly-collected (Sear 1978: 168, nr 1684). The study is based on a corpus of surviving records concerning past and current sales of these items gathered from the Internet, backed up by a literature search of the archaeological and numismatic literature (cf., Barford 2020).

OLBIA DOLPHINS AND THEIR FINDSPOTS

The artefacts that are the subject of this study have been variously-named by dealers, collectors and academic numismatists in a literature that goes back over 150 years; here it is proposed to refer to them by the conventional term “dolphins”, despite the awareness that it seems clear that some of these items probably had not been produced to represent the same species or genus of fish (Mezhzherin 2022). The typology of the objects sold under this heading is varied, but the bulk of them fall into a relatively restricted range of types (Fig. 1).

Among the illustrated items, three main groups occur, within which there are many variants of which only a selection are shown. The largest group is the first, Nrs 1 to 7 (cf., BMC 359–361, 363–368; Makandarov 2019: 16–18, Nrs 22–24, 27–30). The bulk seem to have been made in investment moulds of *cire perdue* type, though some may have been made in open moulds. The second group (Fig. 1, Nrs 8–15), is less common and slightly more homogeneous in form (BMC 369–373 and 374–376; Makandarov 2019: 15, Nrs 14–15 and 15–16, Nrs 16–21). These were made

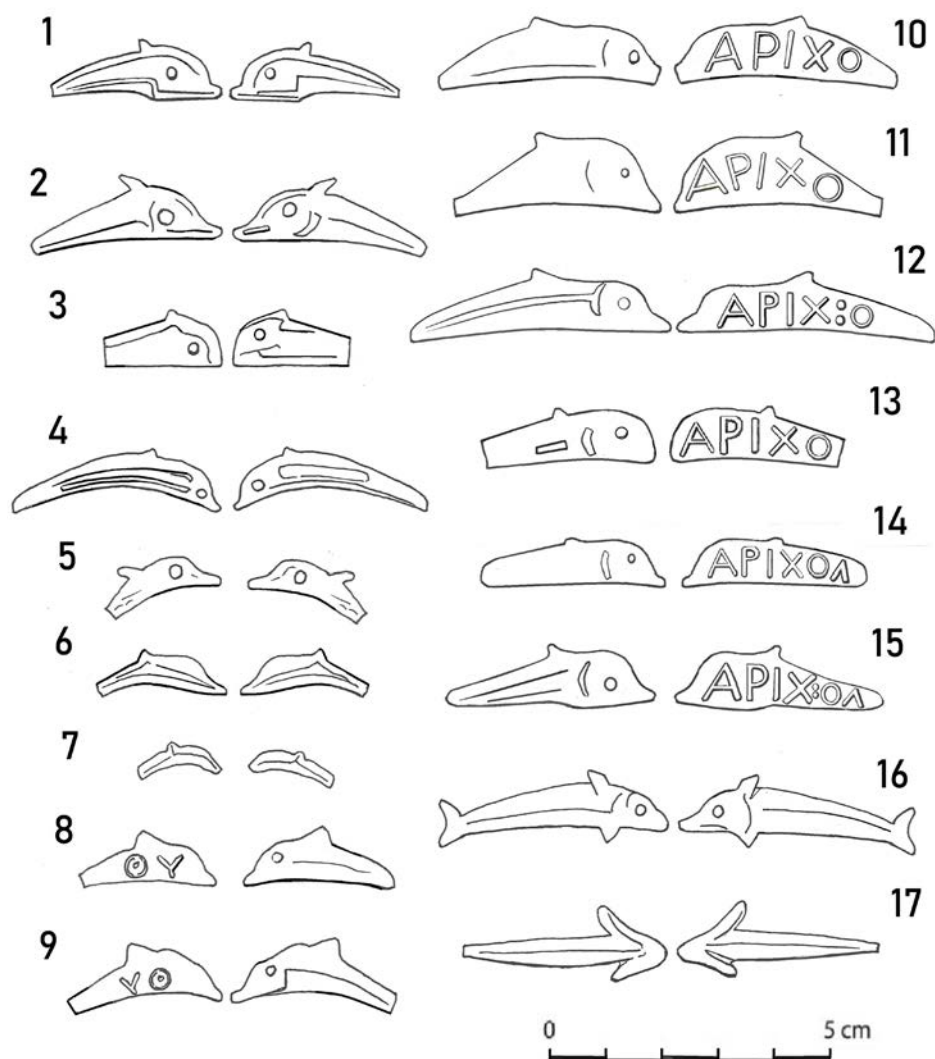


Fig. 1. Selected examples of obverse and reverse of Olbia dolphins, cast bronze (5 cm scale). After Makandarov 2019 with modifications by the Author (the sections of the items were not given, they tend to be only slightly profiled, flat sided, elongated ovoid or plano-convex).

in two-piece moulds, and the flat reverse has an inscription in shallow relief (“OY” in the middle, or those with variants of “APIXO” along the whole body). The third group with paired fins and tail (Fig. 1, Nrs 16–17: cf., BMC 362; Makandarov 2019: 17, nr 25), are rare.

Various attempts have been made to subdivide these objects into meaningful classes on stylistic grounds or seeing them as evolutionary series. Applying these schemes to stratified finds and especially group finds or hoards indicate that what were sometimes thought to have been successive stages in the development of these objects were in use at the same time. The stratified finds indicate that chronology of the series as a whole starts in the second half (most likely the last quarter) of the sixth century BC, and they were in use in the fifth century, going out of use at the beginning of the fourth century BC (some suggest that if the relevant stratified finds are not in a secondary deposit, that they lasted until the middle or even end of the fourth century). On present knowledge, the inscribed ones seem only to have come into use for a few decades towards the end of the series.

These objects are found in comparatively large numbers in the stratified deposits and on the surface of the site at Olbia and the suburban estates immediately adjacent (Kozlenko *et al.*, 2021; Papanova *et al.*, 2021). Another area where they have been found in large numbers was in excavations on the island of Berezan (Chistov 2019). They are also found either singly or in small groups (including hoards) on sites in and around the chora of Olbia. Karyshkovskiy (2003: 292–301, 437, tab. 1) lists 14 sites in the region of the Buh/Dnipro estuary, with a few on Crimea and in the Kerch Strait region; Orlyk and Kolesnichenko (2022: 145–150, Nrs 5–69) add another 32. Many of them are in adjacent regions (Odesa and Kherson regions, on Crimea) a number of them are from further afield (Poltava, Kharkiv, Dniepropetrovsk and Krasnodar regions). There is also currently known a discrete cluster of sites emerging in the Cherkasy region (especially the Tyasmin basin) with outliers in the Kyiv and Kirovohrad areas that seem to mark some kind of exchange networks functioning between the two regions (Orlyk 2021; Orlyk and Kolesnichenko 2022: 140). Obviously, if fresh discoveries by metal detectorists are simply disappearing unrecorded into private collections or onto the antiquities market, information like this is being lost.

ARTEFACT HUNTING IN UKRAINE

In the USA and many countries in Europe, the use of metal detectors to hunt for, and build up private collections of, dug up archaeological and historical artefacts has become a very popular pastime. The people who do it and their supporters cite

a number of justifications for this being the main way they choose to access the past but the activity is undeniably causing severe erosion of the archaeological record. Ukraine has not been immune to this trend. For over three decades, despite the legislation intended to discourage it, the buried archaeological heritage of the country has been heavily affected by artefact hunting (archaeological looting) on a relatively large scale. While in Ukraine the so-called “Black Archaeology” seems to have begun before the early 1990s, the use of metal detectors in searching for “minor antiquities” seems to have exploded in 2000–2010. Hardy (2018: 214) estimates that today there are just over 26,000 individuals that use metal detectors in Ukraine to search for archaeological and historical artefacts. It is no surprise therefore to find that there are relatively large numbers of metal artefacts and coins (including Olbian dolphins) on sale in various places in Ukraine (see Appendix).

The scale of the damage is quite shocking, by 2012, according to Ivakin (2013: 88 quoted by Hardy) some seventy per cent of excavations showed evidence of site looting and reportedly, some sites “do not reveal any metal objects any more” (Ivanik 2013). The damage can even be seen on satellite photos. Olbia is at the centre of a particularly egregious and extraordinarily public example.

The area of Mykolaiv oblast is well-covered by the satellite photos of Google Earth. Moreover in this region, and accessible through the application in the form of successive time slices, there is a very close coverage of satellite photos from different recent time periods from 2003/4 going through to the end of 2021/2. The definition of most of them is sufficient to provide a very good picture of looting in the region, its extent and its dynamics. Within a distance of a few kilometres around the site of the ancient city, there are several dozen flat sites, usually remote and under grassland in exposed positions on the cliff tops and valley sides at where there are visible extensive and dense clusters of deep and wide holes together with spoil heaps. While not all of those sites will have produced coins or dolphins, it is suggestive that almost every single site shown on the published maps of sites of antiquity in the chora of Olbia (for example Marchenko 2013: fig. 1), has already been looted on several occasions over a lengthy period of time.

On several of these sites, some of the earliest Google Earth photos show a number of relatively large looters’ holes, many are partially overgrown indicating they had been dug a few years earlier (possibly in the economic chaos and rural unemployment in the 1990s following the collapse of the Soviet Union). Following the sequences of photos of each site reveals that looting on a much larger scale occurred in the region around Olbia in 2009/10 to 2013 (occasionally continuing until mid-2016). On most sites however the old looting holes become overgrown in 2016 and 2017. Perhaps this pattern reflects the local effects of the 2008–2010 global recession followed by the severe temporary downturn in the Ukrainian economy in 2014 to 2015. A third

phase of looting broke out from the middle of 2019, picking up in intensity in 2020 and still ongoing until the end of 2021. The areas where the looting had been taking place were almost on the front line from mid-March to mid-November 2022.

THE CORPUS

In March 2022 and March 2024, the author carried out detailed Internet searches in an effort to recover as many and as representative accessible online records of current and past sales of Olbia dolphins as possible at that time. The search was quite time-consuming as the antiquities market is notoriously secretive, which results in accessing some details being deliberately hindered or treated as irrelevant in many portals (this includes any information on an object's origins, context of discovery, legal status and past collection history). The information was obtained using several search engines (primarily Google, Firefox and Yandex), visiting a wide range of sales outlets including dealers sites, those of various auction houses and auction aggregators in a variety of languages (using search terms also in Russian and Ukrainian Cyrillic). The main sales portals, and archived records of specialist auctions were searched. Although the trade in minor antiquities can be carried out through a variety of social media platforms (such as Facebook; Zraick 2019; Al-Azm *et al.*, 2019), such advertising tends to be highly scattered, ephemeral, hard to find or even hidden, making it very difficult to study meaningfully. For this reason, no attempt is made to incorporate any of these data here. Dealers can and do offer the same items on several different platforms at the same time, and often if an object fails to sell the first time, it is listed again and again until it does. Although care was taken to exclude duplicates as much as possible, a small number may have escaped scrutiny.

As a result, information was gathered on the sales of just over 5030 items all of which had been previously been removed individually from some form of archaeological context. Although the predominance today of marketing of antiquities being done online makes the gathering of information easier for the researcher, these data are ephemeral. A consideration of the search results show how random factors will lead to differential preservation of information about this process, but above all the rapidity with which online information about sales disappears. Information on online sales will vanish in a matter of months after the finalisation of the sale. If not captured and archived at the time of the sale or soon after, these data disappear irretrievably.

Although it likely that in the period 2000–2015, there were considerable numbers of these objects on sale, the survival of information up to 2014 is extremely scant and in the next few years there were only between 150–200 surviving records annually. For 2019, the total was 240, but from this year onward, there is better preservation

of data from Ukraine (chiefly from the archives of auction portal Viology, so its total includes 85 items from the Ukrainian market). In 2020 however, there were 1083 dolphins on offer, mostly by Ukrainian sellers (965 items). It will be recalled that this is about the time that looting of sites in the chora was increasing in general. In the Ukrainian listings of 2020 there is, however a clear indication that (in contrast to the apparent situation a year earlier), the dolphins were consistently failing to find a buyer, suggesting that the market was at that point saturated or some other economic factor was operating. For 2021, the overall number was down to 336 (295 in Ukraine).

For 2022 there were 618 records, but of these, only 59 were from Ukraine. Although sales in January continued there in the same pattern as before, they dropped off sharply in February on the outbreak of War. A few Ukrainian sellers continued their activities; there were some 20 items offered in May, and a few more sporadically later on in 2022 and early 2023. It is notable that there was a high quantity of atypical dolphins offered in this period. Perhaps no fresh material was available and the seller was offering “left over” material that had not been sold earlier and this was all the stock they had left. This would suggest that these sellers had not been stockpiling artefacts to any degree, but selling them more or less as they came out of the ground.

There is a dearth of artefacts for 2023, there were 418 records in the database, 158 of which were from Ukraine. Again much of the material at the beginning of the year was more suggestive of left-over stock than freshly metal detected items, but in August the sales became less sporadic. It is noteworthy that the two largest databases with results of European and US auction sales contained no records at all for 2023. Were there no objects reaching the market from war-torn Ukraine, or were dealers deliberately not offering them for sale to avoid criticism (or was information on those sales subsequently deliberately suppressed)?

The database has records of 1014 items for the period 1st January to 31st March 2024 (97 from Ukraine). Extrapolated to the whole year, this would be a much higher figure than for any of the previous years. It is unclear whether this is due to a sudden influx of material or is indicative of the normal rate of sales and the speed with which information on finished sales disappears from the Internet.

BULK LOTS

While most dolphins are sold individually, attention should be drawn to the bulk lots of various sizes offered by some of the sellers over the years (not just in 2022–2024). Their photos reveal that most of them consist of rather scrappy material, with a relatively high proportion of highly fragmented material, short segments, often lacking parts

of their snouts or fins. It would seem likely that they are portions of the leftovers from the selection of the better items from larger bulk lots acquired by a dealer by way of a business-to-business transaction between a dealer and a middleman. The purchaser may select out a relatively small number of individual more desirable items that would get a higher price, and then the residue sold on further. The process may be repeated until what is left is a residue of material of lesser quality. It can be seen that some of the items in the peripheral markets (Canada, Australia) in particular look like items that were previously passed over in several selection processes.

Bulk lots relatively rarely occur on open sale from Ukrainian sellers, most of whom offer items singly. In the external market, while they occur in various places as they go through the process of being split up and sold on, it seems likely that a number of them were surfacing at entry points to the external market. In 2022–2024, this concerns sellers in New Jersey and one based in a port town in UK, it is also notable that dealers in Prague, Estonia and Poland also appear among the main handlers of these bulk finds.

CULTURE-HISTORICAL INTERPRETATION OF COLLECTORS

The collectors of ancient coins cite many motivations for being involved in this activity. While there are opportunities at the “high end” of the market for using certain coins as a means of investment, most amateur numismatists will cite more altruistic aims for their interest and acquisitions, citing a love of history, and intellectual curiosity about diverse civilizations and cultures. Ancient coins have aesthetic appeal making them coveted items for collection, display and study alike. They serve as tangible links to bygone eras bearing the marks of their time, the images and inscriptions on them (encapsulating the cultural, historical and political milieu of their minting), offer invaluable insights into the historical narratives, artistic achievements, and societal values of their creators. The educational values of collecting these items is often stressed and some collectors claim to be engaging in some form of academic research concerning ancient coins. Many collectors and dealers react with hostility, indifference and sometimes disbelief to the issue being raised about these personal “benefits” all being at the cost of the damage done to the information content of the sites that were exploited to obtain these collectables.

The marketing narrativisation of the dolphin coins makes much of the mythological connections (Poseidon and Amphitrite, Apollo Delphinios), or stressing the presence of dolphins in the Mediterranean and Black Sea “and the native peoples would have seen these playful creatures almost daily” as “beloved companions” alongside their ships. This creates a preconception that the collector should be seeking the ones that most realistically resemble cute playfully leaping bottlenose dolphins, despite the fact

that they are in the minority within the body of material as a whole (see Mezhzherin 2022). It is interesting to note the wide range of dates that are assigned them in sales offers, ranging from those that are close to that indicated by their stratigraphic context in excavations to others that are far from it (for example, “3rd–1st cent. BC”, “437–410 v. Chr.”, “c. 480–425 BC”, “480–400 BC”, “250 BC”, “440–360 BC” etc.). This indicates that not all numismatists are using archaeological literature in their “research”.

Collecting has also affected perceptions of these items, in the beginnings of their study, it was the inscriptions (“APIXO” and “OY”) on some of them that attracted attention and defined the type. This has continued today. Reis (2002) notes “almost all of them are crude. Very rarely one shows up with a few letters on it, but most have no legend whatsoever”. In fact, in the Ukrainian part of the corpus for 2020–2024, in the sample of 1658 from Violity, there were three (possibly other inscribed ones were separated out for private treaty sale elsewhere and never offered on open sale in Ukraine). On the contrary, in some of the western auction aggregators, the inscribed ones constitute a very high proportion of those for which we have records of sales offered by some dealers.

FRAGMENT AND FORM

The collectors’ notion that some of the dolphins are in some way crude substitutes for more elegant forms of coins allows inclusion of other material among the items sold as dolphins. Both in Ukraine and on the external markets, fragments of copper alloy scrap metal coincidentally of the right size and a shape slightly resembling dolphins are found on sale with other more convincing items. Another more interesting group of these pseudodolphins seem in fact to be casting waste from the manufacture of dolphins. This latter category deserves closer study, though preferably from excavated assemblages.

In fact, the casting process of these objects as a whole is a problem that requires further elucidation. Collectors and dealers accept that many of them were cast on “trees” with the tail end attached to the channel by which molten bronze was poured into the mould, from which the complete object was then separated. This does, indeed, seem very likely in the case of some of them. It seems, however, that many dealers and collectors believe that the objects were originally cast with tails, and that the intention was to remove them from the casting sprue together with the fully formed tail, but in many cases, the objects were carelessly removed leaving the tail behind. Hence the search for the rare “complete” ones “with full tail” (Reis 2002). In reality, it is clear that where the object is broken off far enough back, what protrudes is not a tail or fragment of one, but a piece of the sprue itself. There were no tails

on the majority of dolphins of the first two groups noted above (Fig. 1:1–15). There are however a large number of dolphins that have rounded or squared-off rear ends (possibly made in open mounds). These require further study too.

CONDITION AND PATINA

In his discussion of dolphins, Reis (2002) mentions the “two types of surface available – untouched-as-they-came-out-of-the-ground, and nice black, smooth surface, the latter probably worked on by someone in Ukraine”. Indeed, about 20% of the dolphins on the market in Ukraine have an earth-and-crusty surface that one can imagine is how they came out of the ground. Colours and textures vary, indicating retrieval from a number of burial environments, some have corrosion, erosion and damage suggesting that they came from aerated ploughed soil. One Ukrainian seller has items with a thick brown corrosion layer that looks like what is found in wet clay and it seems their items are from a specific source. Some of the rest have photos suggesting they have apple-green shiny patinas, though this may be a trick of the light and the uses of photographic filters. Neither can it be excluded that some items with various types of green “patina” had been chemically stripped and artificially repatinated.

The rest of the items seem to have, as the dealer Reis noted, been “worked on by someone in Ukraine”. On several niche forums Ukrainian finders proudly share tips and show the results of their “improvements” to excavated items of various kinds to make them more desirable to buyers. This often goes far beyond the drastic cleaning methods described. Most of the dolphins sold online both in the source country and external markets seem to have a relatively uniform appearance, with a smooth steel-grey to almost black shiny surface. These objects have had the upper corrosion layers removed either chemically or – more likely – electrolytically. The black layer is a conversion of cuprite (cuprous oxide) into tenorite (cupric oxide). In some cases, the rounded form and smooth surface of the dolphins may be due to groups of freshly dug up items being placed in a tumbler to remove the loose corrosion. This is a method recommended as a preliminary cleaning stage on many European and US metal detecting forums for dealing with bulk finds.

PRICE DIFFERENTIALS

The antiquities trade has sometimes been regarded as being caused by a lack of economic opportunities in the source countries, leading to people taking up “subsistence digging” to feed their families. The situation is often more complicated.

Brodie (1998) discusses the price differential inherent in the transfer of ownership of antiquities, and shows that the economic opportunities are elsewhere and exposes the antiquities market as an exploitative mechanism. Information in the corpus of Olbia dolphins provides a graphic illustration of these processes if we examine it by comparing groups of items sold in the same time period with an attempt to compare like with like (for example the cost of individual average “low end” anepigraphic dolphins, in other words, what makes up the bulk of the market).

In the antiquities market, selling prices of antiquities are set by dealers consistent with the demand and their marketing skills and opportunities, but also the surrounding economic environment. In Ukraine, the prices are much lower, for example on Viology (Fig. 2A), single relatively featureless examples could be bought for 1–7 dollars each (with a few falling in the price range 7–16 dollars). While it is possible that items with low bids did not actually change hands due to the use of shill bidding (a common online auction ploy, illegal in some countries), it is still clear that most items that do not have anything especially remarkable about them fail to sell for much more than ten dollars. In the case of the few inscribed dolphins on this market (generally the more fragmented ones), prices generally range from 5 to 10 dollars, with some up to 22–25 dollars.

The situation is different if a Ukrainian seller decides to offer dolphins directly on an external market (Fig. 2B). On eBay for example, many such pieces sell for between 13 and 30 dollars apiece (mostly between 15–25 dollars). Here there is not much price differentiation between relatively featureless items and somewhat better ones. There is an interesting price discrepancy between Ukrainian sellers and US ones on eBay (Fig. 2C); finished sale prices in the former case tend to cluster closely in the 13–30 dollar range, while the US price range for relatively featureless dolphins has a wider spread, while many will sell for 20–23 dollars, a seemingly popular pricing, there is a spread of prices from 25–45 dollars, with many selling for 40–45\$. In this external market, the prices of more desirable pieces in both groups goes above those of the majority of pieces, and prices of over 50 dollars or around the 100 dollar mark are not uncommon, reaching some 400 dollars on occasion. In the case of inscribed dolphins in the external market, prices vary for “OY” ones between 30 and 90 dollars (average 64\$), “APIXO” prices range from 50–250 dollars for poor examples (average 193\$) while better, more complete ones can sell for between 50 and 400 dollars (average 208 dollars).

As noted above, bulk lots were relatively uncommonly sold in the Ukrainian market, and their prices varied, small groups of six or seven anepigraphic dolphins in reasonable state sold in 2021–2024 for about five dollars, sometimes a little more (from 7 to 13\$), sometimes a little less. Slightly bigger lots sold for similar prices (15 for 9\$, 16 for 32\$, 43 for 89\$, 150 for 88\$. The price of the individual item in such lots was thus

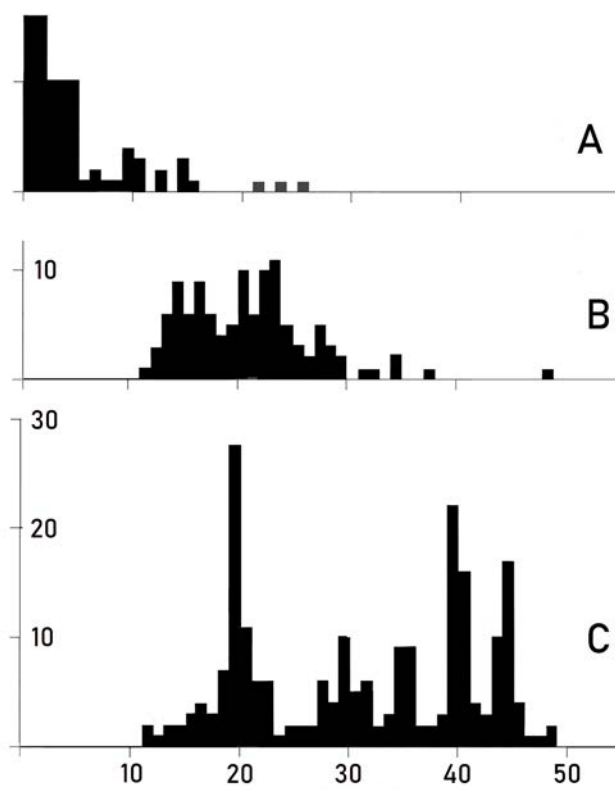


Fig. 2. The price differentials visible for single dolphins in a sample of online sales ($n=397$, sale prices of sold or buy-it-now prices, June 2024), A: Ukrainian sellers on Violity, B: Ukrainian sellers on eBay.com, C: USA and Western European sellers on eBay.com. Horizontal scale in USD, vertical scale number of items (1–27) in a particular price range. Author: P. M. Barford.

about 0.5–2 dollars). Overall prices were even lower in 2020, when there were more multiple lots on sale. When they reach the European and US market however, prices for single items sold at auction as parts of bulk lots are more variable. In external eastern European markets the items sold in group lots cost between 5 and 11 dollars each, while in the west and US it was more like 8–14 dollars.

The profit generation mechanisms of the antiques trade are well seen here. As is the case with other types of antiques, items that can be bought in Ukraine and shipped out by post can be sold in external markets for considerably more than the finder was paid for them.

COMMERCIAL FLOW

What is generally referred to as the global antiquities market (Brodie *et al.*, 2006) is in fact unevenly scattered across the globe (Fig. 3). The main areas are western Europe, where collection of Classical antiquities has a long tradition, going back to the Enlightenment and increasing in tendency in the mid nineteenth century. Russia and Central Europe had the same traditions, but this was to an extent broken by several factors in the period of Soviet domination (1945–1989) but collecting is again becoming popular in both areas in post-Soviet times (Rusina 2007). The other area where there is today a voracious appetite for Classical antiquities in general is the USA. This developed from the 1870s or 1880s but tended to be more socially restricted than in Europe. In both western Europe and the USA, the pastime became more “democratised” by the advent of metal detecting and the internet trading of portable antiquities (1970s–1990s), a situation that still exists today.

The distribution of dolphin sales in Western Europe tends to cluster in the countries north of the Alps with two concentrations, the southern part of the North Sea littoral (a distant echo of Grand Tour collection?) and the Munich-Vienna axis. Beyond that are two other zones in northern parts of East-Central Europe and areas adjacent to the western Mediterranean.

The corpus shows that there are a relatively large number of dolphins on the USA market. The US dealer Reis (2002) notes that they “were rare before the collapse of the Soviet Union. Now they are moderately easy to find; enough are on the market that people get picky about them”. The distribution of dolphins in the USA reflects not only the areas with higher population but also wealth. Possibly it is also a reflection of cultural history. While the relative absence from the entire central part of the USA is not particularly surprising, it is notable that these items are relatively scarce on the West Coast as a whole. Their distribution on the East Coast is also uneven, with few in the south. The bulk of the sales concentrate in the region of Connecticut, New York state, New Jersey and Pennsylvania, this seems to reflect an area where intellectual activity and reverence of the classical world goes back to the earliest days of the colonies. A more diffuse area is found in the region of the Great Lakes in Michigan, Wisconsin and Illinois. Little is known about the beginning of collecting of portable antiquities from the ancient world in Canada and Australia. The market is not very big in either country and the locations of sellers offering them is rather uneven within the area of denser population. It is notable that in the survey no trace was found of these ancient coins penetrating the collectors’ markets of Mexico, or any of the Central or Southern American countries.

The relatively low numbers of these dolphins on sale in Russia (261 documented examples) is notable as is their uneven distribution. Most of the dealers with them

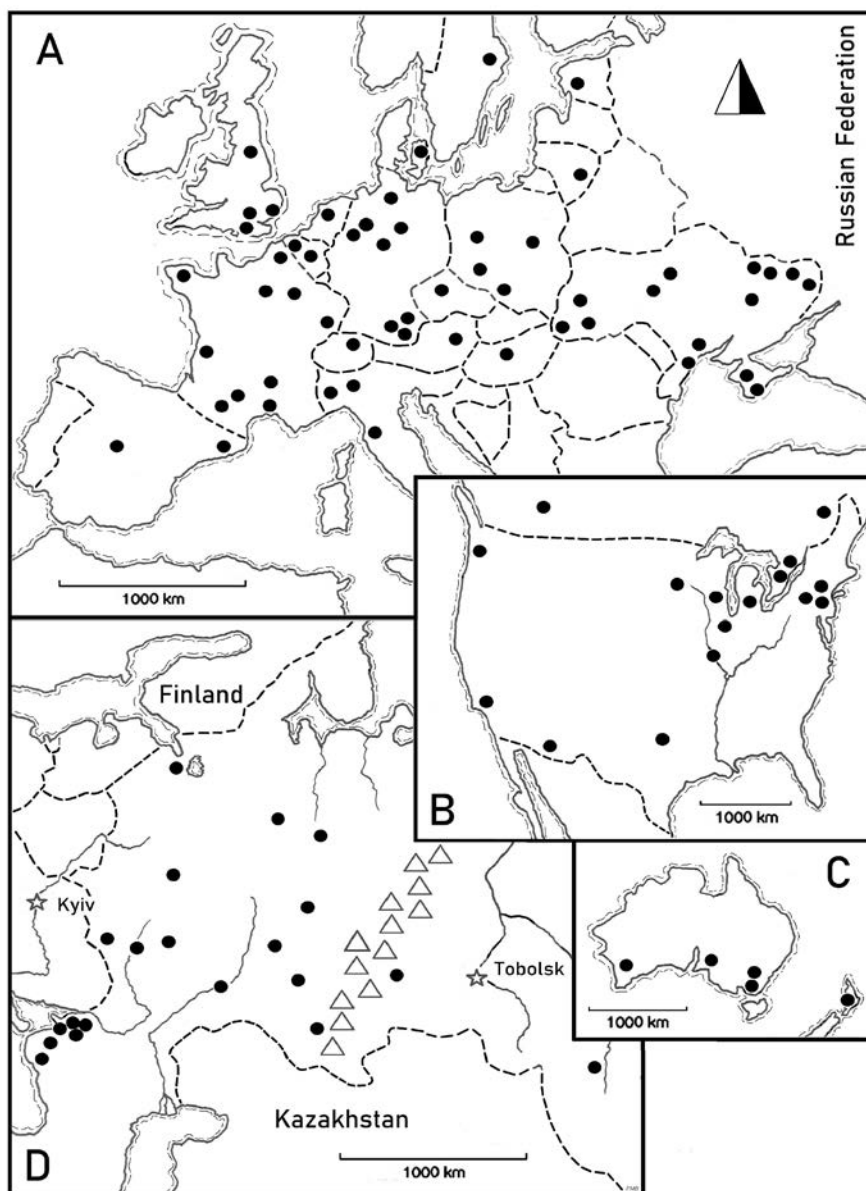


Fig. 3. Location of sellers offering dolphins mentioned in Appendix A: Western and central Europe (including Ukraine), B: North America (USA and Canada), C: Australia and New Zealand, D: Russian Federation (not to scale). Author: P. M. Barford.

were based in the largest cities (Moscow, Saint Petersburg, Novosibirsk, Yekaterinburg, Kazan), but the general concentration in Rostov, Krasnodar, Belgorod and Voronezh oblasts, near the Ukrainian border and in the southern, more populous (and wealthier) parts of European Russia is clear. Beyond that are only a few isolated items (Velsk, Kotlas and Novosibirsk). There were no records of such items in Belarus.

Since the 2014 occupation of Crimea and Russian attempts to subjugate Ukraine and their 2022 escalation, there has been a lot of attention paid to the issue of alleged looting of Ukrainian cultural property during Russian occupation of some territories. The appearance of ancient coins like these dolphins on the market in the Russian Federation is a potential source of information on this.

As noted above, the search criteria used to create the database would not have picked up examples of dolphins sold where the offer was written in a non-European script. There is known to be some market demand for classical antiquities in the Gulf states and Japan, though this mainly applies to “high end” antiquities and “ancient art”. There are also potential markets for various kinds of non-local antiquities in South and East Asia (as well as Africa), about which little is known. The closer examination of the relationship of the markets for antiquities of these regions with other parts of the global trade is a challenge for the future.

CONCLUSION

The increasing commodification of archaeological artefacts in the digital age, transitioning them from scholarly subjects to market commodities, not only inflicts tangible damage on archaeological sites, depleting them of their evidential values, but also erodes the foundations of academic investigation of the past. The antiquities trade is undermining the integrity of cultural heritage worldwide to an alarming extent. In Ukraine, metal detectorists scour productive sites for collectible traces of the past to monetize, leaving behind scars in the landscape that echo through time and alter the archaeological record irreversibly. What happens to the archaeological material they take away?

Part of the journey of Olbia Dolphins through collectors’ markets has been revealed by the preliminary analysis of commercial flow, it is a passage marked by clandestine excavation, illicit trade and silence on the ethical and moral issues. Above all, it demonstrates the ephemeral nature of the online data about them, as sales records vanish into the digital ether, the narrative of the Olbia Dolphins becomes fragmented, like a puzzle with missing pieces.

This narrative also intertwines with socio-economic trends, such as the recent surge in artefact hunting in Ukraine and the effects of economic upheaval, and now war, on this activity. As these artefacts traverse the global market, they become entangled in webs of speculation and exploitation. This study once again exposes the economic

disparities that the antiquities trade always embodies. Ukrainian finders receive meagre sums for their finds. Smugglers, intermediaries and dealers on the other hand reap substantial profits by selling them abroad, catering to the demands of the collectors that drive the entire market.

In response to these challenges, there is an urgent need for renewed emphasis on preservation and ethical stewardship. Scholars, policymakers, and society, including artefact collectors, must confront heritage commodification and together forge a path towards sustainable stewardship to safeguard our shared heritage for future generations.

REFERENCES

- Al-Azm, A., Paul, K. and Graham, S. 2019. *Facebook's Black Market in Antiquities: Trafficking, Terrorism and War Crimes*. ATHAR Project. <http://atharproject.org/wp-content/uploads/2019/06/ATHAR-FB-Report-June-2019-final.pdf>
- Barford, P. M. 2020. Green Saharas, Grey Markets: Commercial Exploitation of North African Prehistory, an Overview. *Archaeologia Polona* 58: 311–336. <https://doi.org/10.23858/APa58.2020.018>.
- Brodie, N. 1998. Pity the poor middlemen. *Culture Without Context: the Newsletter of the Near Eastern Project of the Illicit Antiquities Research Centre* 3: 7–9.
- Brodie, N. 2017. Virtually gone! The Internet market in antiquities. In *Proceedings of the 6th International Conference of Experts on the Return of Cultural Property*, 190–204. Seoul. Overseas Korean Cultural Heritage Foundation.
- Brodie, N., Kersel, M. M. and Tubb, K. W. 2006. From the Ground to the Buyer. A Market Analysis of the Trade in Illegal Antiquities. In N. Brodie, M. M. Kersel, C. Luke and K. W. Tubb (eds), *Archaeology, Cultural Heritage, and the Antiquities Trade*, 188–205. Gainesville, FL <https://doi.org/10.5744/florida/9780813029726.003.0010>.
- BMC = Head, B. V. and Poole, R. S. eds 1877. *Catalogue of Greek Coins in the British Museum volume 3: the Tauric Chersonese, Sarmatia, Dacia, Moesia, Thrace*. London. British Museum Department of Coins and Medals.
- Chistov, D. 2019. The Chronology of Arrowhead and Dolphin-shaped Monetary Signs from Berezan'. In G. R. Tsetsikhladze and S. Atasoy (eds), *Settlements and Necropoleis of the Black Sea and its Hinterland in Antiquity*, 99–107. Oxford.
- Hardy, S. A. 2018. 'Black Archaeology' in Eastern Europe: Metal Detecting, Illicit Trafficking of Cultural Objects, and 'Legal Nihilism' in Belarus, Poland, Russia, and Ukraine. *Public Archaeology* 15(2): 214–237.
- Ivakin, G. Yu. 2013. Problemy okhorony ta zberezhennya arkeologichnykh pamyatok v Ukraini. *Visnyk Natsionalnoyi Akademiyi Nauk Ukrainy* 5: 86–88.
- Ivanik, M. 2016. Koleksioneri vs archeologi. *Zbruch.eu* (August 26, 2016) <http://zbruch.eu/node/55355>
- Karyshkovskiy, P. O. 2003. *Monetnoe delo i denezhnoe obrashcheniye Ol'vyi (VI v do n.e. – IV)*. Odesa.
- Kozlenko, R. O., Sheiko, I. M. and Reuter, A. 2021. Coins from excavations at the T4 Sector in Olbia. *Arkheolohiia i davnia istoriia Ukrainy* 40(3): 304–318.
- Makandarov, G. I. 2019. *Katalog antichnykh monet goroda Ol'viya*. Odesa.
- Marchenko, K. K. 2013. The Chora of Olbia (Contributions to the ethno-cultural characteristic of the agrarian territory of the Polis). *Stratum plus* 3: 17–130.

- Mezhzherin, S. V. 2022. Olviiski protomonety-delfinchyky: osetry, akuly, chy delfiny? *VVisnik Odeskoho natsionalnoho universitetu. Biologiya* 27. [https://doi.org/10.18524/2077-1746.2022.1\(50\).259756](https://doi.org/10.18524/2077-1746.2022.1(50).259756).
- Orlyk, V. 2021. Znakhidky antychnykh monet VI – I st. do n. e. v basini r. Tiasmyn. *Ukrainian Numismatic Annual, Pereiaslav* 5: 5–44.
- Orlyk, M. and Kolesnichenko, Y. 2022. Catalogue of cast antique coin finds of 6th–4th centuries B.C. beyond the borders of the Olbian chora. *Acta Archaeologica Lodziensia* 68: 139–153.
- Papanova, V. A., Lyashko, S. N. and Kaira, F. V. 2021. Monety typu “delfin” z prymiskykh sadyb Olvii Pontiiskoi. In M. Matera and R. Karasiewicz-Szczypiorski (eds), *Pontica et Caucasica II. Interdisciplinary research on the antiquity of the Black Sea*, 161–174. Warsaw. Światowit Supplement Series C.
- Reis, R. 2002. Olbian dolphins. *Collectors’ Universe 2002*: <https://www.anythinganywhere.com/commerce/coins/coinpics/ancgk-olbia.htm>
- Rusina, O. 2007. Trypillian Threat. *Art News* 178 December 1, 2007 <https://www.artnews.com/art-news/news/trypillian-threat-178/>
- Sear, D. 1978. *Greek Coins and Their Values, Volume 1: Europe*. London.
- Zraick, K. 2019. Now for Sale on Facebook: Looted Middle Eastern Antiquities. *New York Times* (May 9, 2019) <https://www.nytimes.com/2019/05/09/arts/facebook-antiquities-syria-iraq.html>

APPENDIX

This presentation of the information from the searches in 2022 and 2024 covers the geographical spread of the material in 2022–2024, and disregards the selectively-preserved information on earlier movements of material (although the latter does not seem to contradict the apparent general pattern that emerges, in fact many of the same sellers seem to have been selling this material over a period of years). The data are organised in four main groups. First, the presence of dolphins on the antiquities market in Ukraine (the source country) is discussed, this is followed by a presentation of the situation in two areas that may be considered as the core area of the global antiquities market (i.e., most of western Europe and the USA). The fourth group is what may be considered a periphery (Canada, Australasia, The Russian Federation).

It is worth stressing that (with one exception), none of the objects listed here have any indication of origin and collection histories, nor is there any indication of the circumstances of recovery (findspots, landowner permissions, excavation permits, assignment of ownership etc.). In no case is there any mention that any of them have any kind of documentation of legal export. None of them are even claimed to be “from an old collection”.

1. UKRAINE (FIG. 3A)

The complete Corpus contains records of nearly 2000 documented examples of these items from Ukraine. The main online sellers are based in Kharkiv, Kyiv, Uzhgorod, Lviv, Iwano-Frankivsk, Vinnitsya, Kamianske, Odesa, Mikolaiv. It seems that there are relatively few established dealers that

handle ancient coins in Ukraine; there is one coin shop in Lutsk, Volhynia district that deals in ancient Greek and Roman coins, but it seems to be in a class of its own. There are however a number of internet portals for collectors that sell in an auction format. The prime venue for the sale of these items is the Kyiv-based portal *Violity*, founded in 2005, where 250,000 collectable items of all sorts are put on sale every day. Its archives retain results of sales of dolphins going back to 2019 (it should also be noted that the totals from *Violity* are uncertain, searches at different times with various filters gave slightly different results, this instability may relate to case-sensitivity of the search engine). There are a number of other online auction portals, but their archives do not go back very far (New Auction: 47 items, UNC: 10, Monitex: 8).

In addition to these, a large part of the dolphins on eBay.com are being sold by sellers based in Ukraine. In 2022, there were 159 items offered (126 by a single seller based near Odesa, 15 by a seller from Kharkiv, 6 from a seller who seems to have moved to Germany at the beginning of the War and continued trading there) and a few other sellers with fewer items. In 2024, there were 123 items sold by eight different sellers (the same Odesa seller now had 92 (apparently) fresh items, there was another seller from Odesa, two from Kharkiv, one from Velyki – and the seller who had moved to Germany was still selling from there – 14 fresh items).

There were also five items being sold by sellers in Russian Occupied Ukraine (one each from Luhansk and Sevastopol, and three from Simferopol).

In Ukraine, there are also a large number of peer-to-peer general online sales venues some local, some parts of international portals operating in the country (e.g., Crafta, OLX, Etsy) where ancient coins, including issues from the Pontic region can be met sporadically, sold by coin collectors and “hobbyist dealers” among other collectables and other items. The archives of these are ephemeral, and they account only for a few dozen of the items in the corpus, but it is not known how many could be distributed by such means annually.

2. OTHER EUROPEAN COUNTRIES (FIG. 3A)

Austria: although there is in general quite an active antiquities market, there was only one seller of dolphins in 2022: Via in Vienna with nine examples. In 2023, Naumann in Vienna had one. In 2024 Artemide Vienna had six examples, plus one bulk lot of 12. Naumann now also had three bulk lots of 20 coins each.

Belgium: Dealer Elsen et fils, Etterbeek had a bulk lot of 26 in 2022, while seller NB-Numismatics in Aartijke/ Zedelgem had a single example in 2024.

Czechia: In 2024, the dealer Katz auctions based in Prague had three bulk lots of 10 coins plus another 45 selected individual items.

Denmark: Dealer Brunn Rassmusen in Koniges Lyngby (Nr Copenhagen) had three examples in 2024.

Estonia: The dealer Coins.ee, Parnu, Estonia had quite a few of these items in 2022, the total was 60, but this included three bulk lots (15/26/28 items). In 2024 there were 79 individual items, plus 12 bulk lots (=274). There were no examples noted in Finland or Latvia.

France: The corpus contains 51 entries for 2022, CGB Numismatics Paris had 26, Comptoir Des Monnaies Anciennes (CDMA) based in Lille had 11, ten were sold by the related NumisCollection, also situated in Lille, while four domestic sellers in Troyes, Montpellier, St Po le Leon and Massy (near Paris) each had one. For 2024, there were 41. CGB Numismatics Paris had 19, four from CDMA, four from NumisCollection. Then there were four from Artenummus and two from Fine-Art numis, both in Paris,

five from Benla in Villemur sur Tarn, and one each from: Abemas papam, Mulhouse; Annick43 Vals-près-le-Puy, Auvergne; Quincampoix-numismatique, La Rochelle.

Germany: In 2022, there were nine dolphins sold in Germany, one by Gorny and Mosch in Munich, another by Savoca, Munich. From Göttingen three were sold by dealer Fenzl, and one by private seller Kruemelmoonster. From Osnabrook were two sold by Kunker. One was sold on eBay by Amisius in Greven. In 2024, the number was nineteen: Savoca had five, and Solidus Numismatic in Munich had one. Emporium Hamburg had three. In Greven, Amisius still had one (the same one?), and ebay seller IrinaMarket (formerly selling from Ukraine, now based in Wolfsburg) had three and 'Suniriska also from Wolfsburg (the same seller?) had another three. In Rosemheim, Kec-Karol had one, and Variana in Unterföhring had two.

Hungary: The seller Monetarium, Budapest had one example in 2024.

Italy: There were just two non-business sellers in 2024 with single pieces (in Livorno and Milan).

Lithuania: Numisbalt in Vilnius had a bulk lot of nine in 2024.

Netherlands: Numistas, in Leiden had one example in 2023, while seller Van Zandwijk in Randstad (Nr Amsterdam) had one in 2024. The dealer RomanCoinShop in Amsterdam also had one.

Poland: In 2022, Wojcicki Salon Numizmatyczny Wrocław had two dolphins, the auctioneer Numismad in Warsaw had one, Marciniak Gabinet Numizmatyczny also in Warsaw was selling two, plus two non-business sellers (from Kazimierz, near Gdynia and Poznan) had single items on Ebay and Allegro. In March 2022, dealer Gliwickie Centrum Numizmatyczne acquired nine bulk lots of ten items. In 2024, Wojcicki had another three items, Poznanski Dom Aaukcyjny had one, and the dealer Kramarska20, also in Poznan, had one.

Spain: In 2022, there were just three examples on sale: Tauler and Fau, Madrid, two; Soler y Llase, Barcelona, one. In 2024 Numismatic Iberium in Madrid had one.

Sweden: Dealer Wallingmynt, Uppsala, had one in 2022. There were none in Norway.

Switzerland: The dealer Leu in Winterthur had 32 examples in 2022, in 2024 the same seller had a bulk lot of 20.

United Kingdom: Although the antiquities market there is among the biggest in the world, there were only three dolphins on sale in the UK in 2022, one by a member of a coin collectors' club in Dorchester and one by the London dealer Spinks, and a third by London Coins in the same city. For 2024, the corpus contained 51 coins, twelve (a bulk lot sold off singly) by Coincraft in Central London, four by Roma Numismatics in Central London, one sold by AH Balwin and Sons in central London, eight sold by Greendatchet in Staines on Thames, and six (a small bulk lot) by Primes coins in York. In addition, the auctioneer TimeLine Auctions, based in Harwich had two bulk lots of 10 items each and in the past (2019–2021) has quite frequently had such lots. There were no records of these items from Ireland.

3. UNITED STATES OF AMERICA (FIG. 3B)

Like western Europe, the USA has a high density of dealers and collectors and in general there is a high demand for antiquities (and particularly ancient coins) from all over the world, Old and New. Although quite a number of dolphins were ending up on North American markets, the actual volume was for some reason lower than expected. For 2022, the Corpus contains 251 documented examples of these items being sold there. The bulk of these finds were being sold through eBay. There was a concentration of dolphins in the New York region, Alexandervel in Brooklyn had 19 items, Dmitry Markov in New Jersey had five, 20_Jazmine New Jersey had 98, and Metallica156 also from New Jersey had 69. These

two dealers had very similar-sounding object descriptions a lot of their objects are grouped in bulk lots from 7–10 items. Bodnari in Birdsboro Pennsylvania, had six. Lauren Certified Coins, Ann Arbor Michigan sold 13, GovMint.com in Eagan, Minnesota, had one with an interesting casting flaw. In Texas, Arlington Coins in the town of that name had four, Moneta Tucson in Arizona was selling two. Time Machine based in Kissimmee, Florida sold two, Treasures by Tim, based in Yelm, Washington had five. Cameleon Coins, Woodland Hills California had three. Vaughn Rare Coins in Alton Illinois had one and Roma Aeternae, Niles Illinois had two. There were also 15 other non-business sellers scattered over the country selling between 1 and 3 items (total 21).

In 2024, the total was 285, some of which were being sold by the same dealers that had them two years previously. The bulk of these finds (203 items) were being sold on eBay, and again it was the New York area in the lead: Dmitry Markov had four, Alexandervel had one, Agora Coins had two, Authentic Ancient Greek Roman Coins, Rego Park NY sold five. The same New Jersey sellers had many items, mostly now being sold singly, but some in small groups of 5–7 together: Cream 1904, 63 items, 20Jazmine had 39, Historycover with 21, Metallica156 had one. Westernwinds Terryville Connecticut had 19 dolphins, Langtons Rare Coin and Currency, Ridgefield, Connecticut had one. Bodnari in Birdsboro Pennsylvania, had four. Classical Numismatic Group Lancaster Pennsylvania had two, plus two bulk lots of 30 plus 30. In Skippack also in Pennsylvania, a non-business seller Soulreaper2 had a bulk lot of 18. Established dealer Harlan Berk in Chicago had three. Vaughn Rare Coins Alton Illinois sold one, Roma Aeternae, Niles Illinois had one. Pegasi Numismatics Ann Arbor, Michigan had three. Zeus Ancient Coins and Artefacts Eagle River, Wisconsin had one. Lost Dutchman Rare Coins (Indycoins) in Indianapolis, Indiana, had one packaged with an informational card. Worley Enterprises, Auburn Alabama sold six, In Texas, Arlington Coins had four, Moneta Tucson in Arizona was selling two. Coin and antiquities dealer AncientArtifactz, Richardson, Texas was selling a single “ancient Greek Dolphin Proto Money – 100% Original – With Display Case” (a Ryker box), the photo showing them picking it out shows a bulk lot of another twenty in the background. There were a number of other USA sellers offering dolphins picked out from bulk lots in similar “educational” packages as part of more general offers of a variety of other household goods etc., these were not mapped. Treasures by Tim, based in Yelm, Washington had two and Praefectus Coins, Blaine, Washington had one. Ken Dorney, Redding California had one, as did Cameleon Coins, Woodland Hills California, while Stacks Bowers in nearby Costa Mesa had two. There were also eleven other non-business sellers scattered over the country selling single (occasionally two) items on eBay (total 15).

4. PERIPHERAL AREAS OF THE GLOBAL ANTIQUITIES MARKET

Australia (Fig. 3C): There were relatively few of these coins in the hands of Australian dealers, in both 2022 and 2024 the total was just 11, most of these were relatively small broken pieces being sold for relatively modest prices. There were four items with Imperial Numismatics, a dealer in Perth, and the rest of them were being sold in the SE of the country, seven by Yeoldecoinco in Magill, near Adelaide, eight by The Swagman in Albury on the Murray river and two by Ancientcoins-18 a dealer in Blackburne next to Melbourne. In New Zealand, there was one dolphin being sold by Ccoins2015 in Auckland on the North Island.

Canada (Fig. 3B): In 2022, there were 8 items sold, but in 2024 the number was up to 56, being sold by shops that mostly traded through eBay, the biggest was based in Richmond Hill Ontario and had 19 small dolphins. Another shop in exactly the same address had eight. One dealer in Hamilton Ontario acquired 13 for sale in 2024, while a shop in Mississauga Ontario had two. One Toronto dealer had eight,

a second Toronto shop had four, A dealer 4 Sesterces in Calgary had one. Another seller, Rodsyuriy from Saint-Laurent, Quebec, had a series of small scrappy fragments of (18) dolphins, and Numismatique Louis Brousseau in Quebec had one item.

Russian Federation (Fig. 3D): The Corpus contains 261 documented examples of these items from the Russian Federation. While there are in Russia a number of dealers in world coins for investment or coins of the Russian Empire and its medieval beginnings, there are relatively few dealers with actual shops in the entire Russian Federation that specialise in ancient coins. There seem to be just two (and another two of unclear status), all of them are based in Moscow and the corpus contains no reference to any of them selling dolphins in the recent past. Other established numismatic dealers operate mainly through online sales, but again dolphins are rarely offered among the more conventional types of ancient coin. The main dealers having these coins in 2022–2024 are situated in Moscow (Numizmatik, Rashenkoin, Volmar, each just one for sale) and Saint Petersburg (Anumis, [54 items, some casting waste], Petersburg Numismatic Auctions [2]) and one with shops in both Moscow and StP (Konros [18]). Other major dealers are situated in Ekaterinburg (Bonuman [5], and Numizmat [1]), and one in Krasnodar (Duvanov Coins [2]).

Like Ukraine, there are a large number of peer-to-peer online sales venues with more general profile and rather ephemeral archives, where non-business sellers sometimes offer collectables and numismatics. Ancient coins from the Pontic region can be met sporadically (e.g., Meshok [56], Aukcja.Ru [54], Festima [13], but also Avito [3], Yandex Market [2] Abino [1], etc.). The Russian branch of eBay closed down several years ago. The sellers are mostly based in Moscow (24), Saint Petersburg (11), Yekaterinburg (8). Other sellers with smaller numbers of items were in Rostov (5), Yeisk (5), Taganrog (5), Bataysk (9) in Rostov oblast, Krasnodar (4), Temryuk (2), Timashevsk (2) in Krasnodar oblast, Gubkin (2) and Voronezh (4) in Belgorod and Voronezh oblasts, Tambov (1) in Tambov Oblast, Shikhany (2) in Saratov Oblast, Salavat (2) in the Republic of Bashkortostan, Kazan (6) and Al'met'evsk (1) the Republic of Tatarstan, Russia. In the North were two sellers in Velsk (1) and Kotlas (6) in Arkhangelsk Oblast. To the east of the Urals, was only a seller in Novosibirsk (3).

CONFERENCE

The 4th European Conference “Europa Postmediaevalis 2024: Patterns and Inspirations”, Warsaw, Institute of Archaeology and Ethnology Polish Academy of Sciences, Faculty of Archaeology Warsaw University, 23-25.04.2024.

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The conference was the fourth in a series of meetings organised in various European countries in the last six years under the common title *Europa Postmediaevalis* (2018 in Prague, 2020 – cancelled due to the COVID-19 pandemic, 2022 in Coimbra), on the initiative of the international association ‘Europa Postmediaevalis Research Group’ (see: <https://www.europapostmed.eu/en/>). Its founders and main activists are Gabriela Blažková and Kristýna Matějková, who were also the initiators and co-organisers of the Warsaw session. The primary goal of *Europa Postmediaevalis* is to improve the knowledge of the post-medieval ceramics (15/16th–19th centuries) from archaeological excavations and integrate the community of researchers specialising in post-medieval archaeology. The main focus is various categories of ceramic vessels: from everyday-use vessels, such as red-, white-, and greyware, through glazed pottery, to high-quality products such as majolica, faïence, and porcelain. Other pottery products are also in the scope of interest, such as stove tiles, clay smoking pipes, and clay figurines (see Bis 2021).

Each of the previous meetings was dedicated to different issues: post-medieval ceramics from a transcontinental perspective (2018), objects made of clay used

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in spare time activities (2020), and pottery as a material trace of connections and networks (2022). The leading topic of this year's conference was issues related to the dissemination of technologies, styles and ideas manifested in post-medieval ceramics and their impact on the transformation of patterns of everyday life and social relations in post-medieval Europe.

The event was held thanks to the involvement and cooperation of several Polish and Czech institutions: the Institute of Archaeology and Ethnology of the Polish Academy of Sciences, the Faculty of Archaeology of the University of Warsaw, the Czech Academy of Sciences, the Institute of Archaeology of the CAS Prague, and the Centre for the Processing, Documentation and Recording of Archaeological Finds (Czechia). It was financed by the Ministry of Education and Science of the Republic of Poland, as part of the 'Excellent Science II – Support for Scientific Conferences' program, obtained through the Foundation of Friends of the Institute of Archaeology and Ethnology of the Polish Academy of Sciences (project No: KONF/SN/0475/2023/01).

Given the growing interest in historical archaeology and material sources from the post-medieval period, the conference was part of current research trends. The high attractiveness of the subject is evidenced by the participation of representatives from more than a dozen countries: Croatia, Czechia, Denmark, Finland, France, Germany, Hungary, Italy, Norway, Poland, Portugal, Romania, Slovakia and Ukraine (Fig. 1). This provided the opportunity to study the typological and stylistic diversities of the presented ceramic collections and to trace heterogeneous phenomena in post-medieval pottery manufacturing and use. They stemmed from the constant circulation of cultural influences and inspirations, transfers of technology, forms, and decorative patterns, and resulted in direct or creatively adopted borrowings. Otherwise, these processes contributed to the development of distinctive techniques and decorations, individual and specific features in pottery production in particular regions. The total of 34 lectures focused on the issues mentioned above covered three conference days. The proceedings were broadcast online, and the recording is available on the ArcheoTV channel (<https://www.youtube.com/@archeotv9617/streams>).

The papers were grouped territorially: into finds from Central, Northern and Eastern Europe and the Mediterranean, and thematically: into vessels, stove tiles, smoking pipes and entire collections of wares from specific sites. Most of the presentations were devoted primarily to the decoration of vessels (covering a whole range of motifs and techniques evolving over time), reflecting craft skills and artistic sensibilities on the one hand, and the taste and status of buyers on the other. These issues were discussed in relation to various ware groups and decoration types (Mário Bielich, Marián Čurný, *Pottery from the 16th–17th century from Upper Hungary based on finds from Tvrdomestice*; Gabriela Blažková, *Early modern pottery*



Fig. 1. Participants of the conference 'Europa Postmediaevalis 2024: Patterns and inspirations'.
From the authors' archives.

decoration techniques in Bohemia using assemblages from Prague-Hradčany; Ladislav Čapek, Michal Preusz, and Pavlína Schneiderwinklová, Traditions and changes in the practice of rouletting decoration on late medieval and post-medieval pottery in South and West Bohemia; Lesia Chmil, Common features of Ukrainian and Central European ceramic ornamentation of the Early Modern period; Oksana Kovalenko, The decoration of kitchenware according to materials from the end of the 17th century to the beginning of the 18th century of the Poltava regiment of the Cossack hetmanate; Kristýna Matějková, Decorations – inspirations – patterns. Certain aspects of 17/18th-century ceramics from Bohemia; Adrienn Papp, Ottoman – Hungarian reflections; Michal Preusz, Decorative techniques in the pottery production of southern and western Bohemia from the end of the 15th to the middle of the 17th centuries; Samuel Španihel, Similarities and differences in the decorative patterns of pottery on both sides of the Western Outer Carpathians; Maciej Trzeciński, Patterns of the past in the lands apart? Early medieval pottery-making traditions in post-medieval North-eastern Europe).

Much attention was also paid to products that can be described under the common term 'slipware' (slip-coated lead-glazed earthenware). These wares were a cultural phenomenon on a European scale, and studies on their production and use cumulated a vast array of issues related to patterns and inspirations (Magdalena Bis, *What came first: inspiration or demand? A new look at slipware in post-medieval Poland*; Volker Demuth, *Slipware in northwestern Europe from the 16th to 18th*

centuries – innovation, trade and migration vs. cessation and degeneration; Paweł Duma; Wrocław as an important centre for the production of slipwares in the modern period in the context of the European tradition). Similar ornamentation also characterised the other types of vessels analysed (Maija Helamaa, *Red earthenware in Early Modern Finnish households*; Ricardo Costeira da Silva, Tânia Manuel Casimiro, *From Coimbra to the world: Early Modern sgraffito painted redwares*; Rodrigo Banha da Silva, Sara Ferreira da Cruz, André Bargão, and Jorge Branco, *Lisbon pottery and mudejarism in the late 15th to mid-16th centuries*; Frauke Witte, *Cultural identity in post-medieval times based on earthenware*). An equivalent to slipware in terms of quality and functionality was the so-called Pomeranian faience (Joanna Dąbal, *Blue and white pottery in Gdańsk*; Mateusz Szeremeta, *Stettiner Ware – a typical product of a local workshop, or just a cheap imitation of Dutch goods?*). In turn, majolica, faience, and porcelain from the Far East and from renowned European factories were luxury products. Their decoration patterns marked out stylistic trends and were a constant source of inspiration for potters (Shanshan Li, Mário Varela Gomes, Xiong Huan, Rosa Varela Gomes, and Joana Gonçalves, *Gilded and colourful at the convent table*; Marco Milanese, *Ceramic markers of globalization from European and non-European archaeological contexts of the 16th century. The case studies of Ligurian majolica*; Ewelina Więcek-Bonowska, *Faience and porcelain dishes in the sociotopographical perspective of Warsaw in the 18th century*; Fig. 2).

Heterogeneous pottery assemblages from different contexts, their varieties, and decorative values were also among the issues discussed (Marin Matkovic, *Changing patterns of pottery consumption in post-medieval Osijek (Croatia)*; Yuriy Puholovok, *New markets – new common ware: the expansion of the pottery range in Poltava in the 18th century*; Michał Starski, *Well of finds. An assortment of ceramic vessels from 17th and 18th centuries from a dump in a well in Puck (Gdańsk Pomerania)*; Roko Surić, Maja Kaleb, Luka Bekić, *Archaeological material from underwater excavation of post-medieval ballast piles near Brbinj, Dugi otok, Croatia*).

Decorative motifs on stove tiles – their features, production techniques, origins, and socio-cultural impact were also the subject of studies (Olga Krukowska, *Feasting and dancing motifs on vessels and tiles from Early Modern Period as a source of knowledge about the customs of past societies*; Bartłomiej Makowiecki, *Renaissance stove tiles from Wawel Royal Castle as an example of the transfer and spread of patterns*; Liudmyla Myronenko, *European and local features in the decoration of Baturyn's stove tiles of the 17th-early 18th century*; Harald Rosmanitz, *Prestige versus local traditional – potters working exclusively for the upper class*; Irena Taranta, *Decoration on stove tiles from Supraśl monastery*; Fig. 3).

The above-mentioned set of lectures was complemented by studies on ceramic toys (Tânia Manuel Casimiro and Ricardo Costeira da Silva, *Tiny things: 17th-century*



Fig. 2. During the conference proceedings at the Institute of Archaeology and Ethnology of the Polish Academy of Sciences, 23.04.2024. Photo: M. Bis.

miniatures, dolls and toys from Coimbra (Portugal) and decorative patterns on smoking pipes (Ionuț-Cosmin Codrea, *Tobacco clay pipes under the influence of the baroque goldsmithing. The acanthus leaf decorative motif*). Eventually, there was also a space for reflections on what ‘Europa Postmediaevalis’ had achieved so far and questions about further directions (Joel Santos, Tânia Manuel Casimiro, *Where do we draw the line? Post-medieval material culture in a broader perspective*).

Ukrainian researcher’s – Yuriy Puholovuk’s paper was read in his absence, and one of the other participant – Liudmyla Myronenko ended her presentation with dedication to four members of the excavation expedition that had died during Russian invasion.

The presentations made it possible to compare the research methods used and the ways of interpreting the post-medieval finds. Furthermore, they revealed current research fields being explored and the prospects for new fields of study. The confrontation of knowledge and experiences of researchers from different parts of Europe manifested in lively discussions after each session. In this way, another of the objectives of the *Europa Postmediaevalis* conference, i.e., to facilitate



Fig. 3. During the conference proceedings at the Faculty of Archaeology of the Warsaw University, 25.04.2024. Photo: M. Bis.

and strengthen mutual contacts between the participants, was achieved. We hope that this was fostered by the friendly atmosphere.

The proceedings were accompanied by additional events, including the Ceramic Workshops, organised on the first and third day of the conference (Figs 4 and 5). The workshops were held in the round table formula – breakout exercise and was a ‘live’ meeting with artefacts from selected sites from Mazovia and Lesser Poland (Płock, Solec nad Wisłą, Warsaw, and Żelechów) and from Gdańsk Pomerania (Gdańsk and Puck). These included both kitchen- and tableware used in middle-class households, as well as sets belonging to the wealthy bourgeoisie, adhering to cosmopolitan consumption patterns. These collections illustrated the structure of Polish archaeological collections and showed the heterogeneity of local pottery and the wide range of imported products available on the domestic market.

Conference participants also visited the Museum of Warsaw and the Royal Castle. During the tours guided by employees of these institutions (respectively): Zuzanna Różańska-Tuta and Agnieszka Bocheńska, the history of excavations in the city of Warsaw and the area occupied by the princely and later royal residence was presented. The discoveries crucial for understanding Warsaw’s past and reconstructing



Fig. 4. During the Ceramic Workshop at the Institute of Archaeology and Ethnology of the Polish Academy of Sciences, 23.04.2024. Photo: K. Blusiewicz.



Fig. 5. During the Ceramic Workshop at the Faculty of Archaeology of the Warsaw University, 25.04.2024. Photo: M. Miścicki.

the everyday life of its inhabitants from the Middle Ages to the modern period were also highlighted. As may be expected, pottery was one of the categories of artefacts discussed.

In line with past practice, the publication of post-conference materials is planned in the British publishing house Archaeopress in 2025. So far, three books have been published with articles based on papers from previous sessions (*Europa Postmediaevalis* 2019; *Europa Postmediaevalis* 2021; *Europa Postmediaevalis* 2023). The aforementioned publications serve as reference materials for researchers working with post-medieval and modern period pottery.

The Warsaw conference, like the previous ones in this series, was inspiring on many levels. It proved that the research on post-medieval ceramics on the European continent is a dynamically developing and exciting discipline. The stories of the presented finds reveal fragments of a complex but also fascinating picture of the past itself and the past societies. Like a jigsaw puzzle, the analysed pottery fragments, create our image of this bygone world. How reliable it is – it depends on us, the researchers.

REFERENCES

- Bis, M. 2021. (Review) Gabriela Blažková and Kristýna Matějková (eds), *Europa Postmediaevalis* 2018. Post-Medieval Pottery Between (its) Borders. Gloucester 2019: Archaeopress, pp. 297, colour illustrations. *Archaeologia Polona* 59: 179–188. <https://doi.org/10.23858/APa59.2021.2700>
- Europa Postmediaevalis*. 2019. *Europa Postmediaevalis* 2018. *Post-medieval pottery between (its) borders*. Blažková, G. and Matějková, K. (eds), Gloucester.
- Europa Postmediaevalis*. 2021. *Europa Postmediaevalis* 2020. *Post-medieval pottery in the spare time*. Blažková, G. and Matějková, K. (eds), Oxford.
- Europa Postmediaevalis*. 2023. *Europa Postmediaevalis* 2022. *Connections and Networking*. Blažková, G., Matějková, K., Manuel Casimiro, T. and Costeira da Silva, R. (eds), Oxford.

BOOK REVIEWS

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Olena Fialko, *Amazons: Myths and Reality*, 2023. Kyiv: Institute of Archaeology of the National Academy of Sciences of Ukraine, 434 p., ill. [in Ukrainian: Олена Фіалко, *Амазонки: міф або реальність*, Київ: Інститут археології Національної академії наук України, 2023, 434 с., іл.], ISBN 978-617-7810-35-2

Reviewed by Evelina Kravchenko^a

The Institute of Archaeology of the National Academy of Sciences of Ukraine has published Olena Fialko's book *Amazons: Myths and Reality*. Actually, it is a publication of the author's thesis for the degree of Doctor of Historical Sciences, which she successfully defended in 2020 at the Institute in Kyiv.

The scientific significance of the paper work and its relevance are difficult to overestimate, as it brings together all the available sources that mention or point to the existence of the Amazons. The author emphasises the existence of women warriors in Scythian times as a systemic phenomenon that was not so common in earlier times, although there are some cases of evidence of the existence of female soldiers in the past history of mankind. This is primarily due to the specifics and basic economic and social characteristics of societies that crossed the threshold of the Iron Age. This was a time of intensification of land movements when the speed and distance of military campaigns increased significantly due to the emergence of horsemanship and the appearance of nomadism. As the author of the dissertation



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notes in the introduction, the long absence of men who took part in long-distance campaigns could give rise to such a phenomenon as female warriors. This phenomenon is cited as a legend by ancient authors – Herodotus, Diodorus Siculus, and others – when fragments of ancient legends about the lands of the Cimmerian Bosphorus and Meotis are recited. The existence of this phenomenon in various European peoples throughout the Iron Age, where under different conditions, a woman could acquire the qualities of a warrior, only confirms the existence of this phenomenon.

The long debate about the mythical Amazons and the legitimacy of the use of this term is far from complete, but the classic philosophers are unanimous in their thesis about the development of the culture of the ancient Greeks and their life in the mythical horizon. That is, from the point of view of the Greeks, the mythical Amazons were so close, intertwined by scholastics with real historical events, that the transfer of meaning to real peoples took place among the contemporaries of those events, so the question of legitimacy was not discussed by most philosophers. Such a thorough historiography also allows us to continue to cover this issue at the actual level.

This issue has become particularly important in recent decades, when in the world's leading democracies women are finally gaining equal rights alongside men in their professional pursuits, including in the military. Our culture undoubtedly stands on the foundations of ancient Greek culture, the values of which were revealed to the world of the Amazons. But was this phenomenon unique to Greek culture, or is it part of human civilisation but insufficiently studied, and therefore more legendary, mythical than historical reality? How could it happen that a completely powerless ancient Greek woman created a separate society, and Greek society accepted it? All these issues are covered by the book reviewed here.

The structure of the book generally reflects the structure of the thesis defended by the author. The paper is built on the classical scientific principle with coverage of history of previous research and then the author's research methods. Following this chapter, the sources and their analysis are presented in separate parts, and the last chapters are historical, where the Amazons are characterised as a historical phenomenon.

The book's introduction "The state of study of the question" includes the discussion of terminology and the main research fields concerning the outlined range of issues. It is worth noting that this book is referring to a Greek society and worldview. Therefore, it is worth substantiating the opinion on the basis of the conclusions of philologists and philosophers-classics, especially Friedrich Nietzsche and Aleksandr Nemirovsky; the work of Martin Heidegger is also worth mentioning. If the author insists on the need for argumentation in Russian-language texts and the formation of a mental image in the Russian-speaking environment, then it is worth paying attention to the work of psychology by Piotr Yakovlevich Halperin, as well as studies of Russian linguists.

Chapter 1 (Part 1), “Literary Tradition of the Amazons”, contains an analysis of ancient mythology and data from ancient authors. Among others, O. Fialko cites the data of Herodotus (but the episode of this author’s journey to Scythia should be supported by a reference to the source because this issue is the subject of discussion).

It is also worth mentioning the Central European cults of Orsilokha and the goddess with serpent legs (Rankenfrau in German archaeology), which were also known to the Scythian tribes that lived in the Ukrainian forest steppe. These women’s cults, very similar to the ancient cult of Artemis, with the spread to the territory of Scythia, were to receive both their sacred places and the priestesses who protected them. The spread of military cults in the Iron Age could have had an effect on the female cults of warriors, common in all European tribes from the Greek south to the Varangian north.

In general, it can be deduced from ancient mythology that it tells of a certain phenomenon of Greek society, which arose so far back in time that it became the content of the hymns and epos of the Aedes in the Greek Archaic period, which was explained by scholars of Classical period according to the historical science of their own period, which is ultimately reduced to Ephesus and the temple there of Artemis. All this became the foundation for the image of the Amazon in ancient Greek society.

Chapter 2, “Amazons in the Fine Arts”, has a thorough analysis of all artistic representations and objects depicting women warriors. It is also worth noting that the author, describing all the findings of ancient images of the Amazons, did not map them, which, in our view, is a serious fault. After all, even when describing the findings, it is clear that in some places, they must form compact groups. It is also worth noting that the theme of the Amazon is very popular in the Cimmerian Bosphorus, vases using this motif were probably made there. Images of Amazons on Etruscan objects should also have been grouped together.

Chapter 3 (Part 2), “Amazons of the European Scythia in Archaeological Sources”, is the largest in the dissertation and contains an analysis of archaeological complexes that may be associated with the Amazons. Perhaps it would have been worthwhile to single out the descriptions of the complexes and present them in the appendix and to dedicate the section to the generalisation and systematisation of this group of sources. In this way, the text would be better perceived by the reader. In the manner in which it is presented, the text on “Religious buildings” is not very clear, it is difficult to understand which ones the author interprets as belonging to the Amazons or whether they did not actually use any of them.

In the part describing the burials of girls and children with weapons, the author does not provide an argument for their belonging to the phenomenon of women warriors. This really significant phenomenon in the history of human societies should be singled out for a separate analysis.

In the paragraph on “Funerary items”, the items are partly defined by gender, which, in our opinion, is an unfortunate term (woman’s items/men’s items). Maybe the author should think about a different wording (items which are traditionally associated with women/men?).

The following three chapters are more synthetic and interpretive: “Scythian Amazons – direct participants in military conflicts” (Chapter 5), “Issues of social differentiation and chronology” (Chapter 6) and “Amazons as a general historical phenomenon” (Chapter 7). All three chapters are undeniably innovative in the archaeological research of women’s burials in European Scythia. Anthropological research has provided a lot of information, but it is worth carefully checking the publication information with reporting information. The collective burial in the Sary-Kaya mound field near Bilogors’k in Crimea belonged to one family. Most of the buried men had multiple cut wounds that healed during their lives; unhealed wounds were recorded only on female skulls). It is an important remark, which connects with sources interpretation, but it is not predetermine the conclusions of research.

Chapter 6 should have been supplemented by at least three maps according the date of burial: second half of the 7th–6th centuries BC, 5th–first half of the 4th centuries BC and the second half of the 4th–3rd (2nd) centuries BC, on the maps the graves of the nobility and socially differentiated burials should also be marked.

In general, the dissertation reflects all available sources for the study of the phenomenon of women warriors of European Scythia, that is the Amazons. The Early Iron Age is a time when the basic worldviews of European civilisation were formed; they are the main ones of European nations to this day. Therefore, the image of the Amazons of the ancient Greeks became synonymous with women warriors. Whether the notions of war and militancy can be considered synonymous in this context is an open question and is not the subject of this work. After all, a woman warrior is first and foremost a defender as opposed to a male warrior, who can also be an aggressor. The Conclusions succinctly present the main results of the research.

The book is supplemented by meaningful appendices, including a complete register of burials of Amazons of European Scythia (302 burials), the characteristics of burial mounds and burial structures, funeral items, graves and their construction, anthropological characteristics, chronology, site associations, etc. The book is well illustrated (241 figures).

In spite of our aforesaid remarks, O. Fialko’s book *Amazons: Myths and Reality* is a new research project carried out at a high professional level. The publication of this research is undoubtedly a significant event in the archaeology of the Eurasian Iron Age and will determine the direction of further research in this field for many years. Remarks do not reduce the scientific significance of this work, but on the contrary, open new themes for future research.

Matthew J. Walsh, Sean O'Neill and Lasse Sørensen (eds), *In the Darkest of Days. Exploring Human Sacrifice and Value in Southern Scandinavian Prehistory*. 2024, Oxford and Philadelphia: Oxbow Books, 144 pp., 41 plates.

Reviewed by Piotr Włodarczak^a

The titular darkest of days is a moment that inevitably affects every society from the Stone Age to the present. Then comes the time for desperate behaviour. It is also a time for sacrifices, including of humans. The subject of human sacrifices is closely linked to Scandinavian archaeology – considering the spectacular finds from the bogs. In recent years, studies on them have been conducted as part of the project “Human Sacrifice and Value: The Limits of Sacred Violence”, financed by the Norwegian Research Council. The project manager was Rane Willerslev, the author of the foreword to the presented book. An essential part of this publication are papers presented at a National Museum of Denmark conference in 2018. The publication consists of a two-part introduction and twelve chapters presenting various aspects of sacrificial offerings and ritualised violence in a broad period: from the Neolithic to the historical Vikings. In a short foreword, Rane Willerslev emphasised the supraregional and timeless nature of the institution of sacrifice, referring to the tragic events that have occurred in humanity in recent years. In this way, he outlined the primary intention of the authors of the book: to present the issue of human sacrifices with reference to universalist anthropological theories. The authors of the long, broader introduction to the book about the “Darkest of Days” are Matthew J. Walsh, Marianne Moen, Sean O'Neill, Sven H. Gullbekk and Rane Willerslev. Starting from an attempt to define sacrifice, they presented its manifestations in various parts of Scandinavia from the Neolithic to the Viking Age without limiting themselves to the aspects discussed by the authors of the main part of the book. In drawing the background, the authors of the introduction cite references to human sacrifice in the written sources from ancient times and the Viking era. The interpretation of discoveries from wetland areas remains at the centre of the discussion on human sacrifice in Scandinavia. Nevertheless, both in the introductory articles and in the main part of the book, there

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is a visible tendency to interpret the special role of bogs as places of ritual practices (“liminal areas”), as well as to present human sacrifices as a universal phenomenon, appearing commonly in different places and times. The authors of the introduction presented a comparison of manifestations of human sacrifice throughout time using diagrammatic visualisations (neighbour-joining dendrogram, NeighborNet network analysis and correspondence analysis). These images do not show a clear temporal evolution in the rituals practised. In the absence of a phylogenetic relationship, a conclusion was proposed about the universal nature of human sacrifices: they appeared in different places and times, serving various purposes or functions (“as genuine acts of communion, other times and places as a regulatory measure for signalling and maintaining social order or control, and others as a necessity for violence, or as a means of mitigating calamity”). Moreover, these functions were not mutually exclusive, but on the contrary – they complemented each other.

The book presents various aspects related to human sacrifices in the following 12 chapters. In the first one, Lasse Sorensen and Poul Otto Nielsen attempt to generalise this issue for the Scandinavian Mesolithic and Neolithic. They point to an apparent increase in brutal behaviour in the Neolithic, related to competition and the emergence of surplus production, population growth and increased social stratification. When trying to interpret human sacrifices, uncertainty associated with the cause of death often appears. Double or mass burials illustrate this problem well. The authors only indicate the possibilities of their interpretation, referring to phenomena known from ethnology and cultural anthropology. They describe, among other things, mercy killing and infanticide. At the same time, they point to the dilemmas related to interpreting the nature of human sacrifices: killed enemies or intentional sacrifices. This is a typical narrative present in all of European archaeology. In the further part of the chapter, human sacrifices in wetland areas are described in more detail. Examples of sacrifices with visible injuries, other signs of violence (e.g., cords wrapped around the neck) and the origin of the deceased from distant regions, confirmed by isotope studies, are presented. The authors try to place the phenomenon of human sacrifices in the context of the social and economic structures of the Scandinavian Neolithic.

In the second chapter, Matthew J. Walsh and Samantha S. Reiter present human sacrifices from the areas of Jutland and northern Germany dated to the Bronze Age. The text concerns the custom of attendant sacrifices or ritualised killing (animal or human) associated with honouring a high-status individual. As the authors emphasise, the idea of attendant sacrifice is widespread, and is known from different periods and regions. The article presents burials indicating the implementation of attendant killing, with inhumations with human sacrifices in the form of cremation standing out here. As in the previous chapter, human sacrifices are linked to social conditions, i.e., the regulation of an apparent inequality in the social structures of Bronze Age communities.

In the next part, Pernille Pantmann focuses on properly defining human sacrifices. She believes reflection on this subject is too narrowly limited to well-preserved, mummified bodies from bogs. Therefore, she focuses on partial finds: loose parts of the bodies discovered at archaeological sites, systematising knowledge about “Loose Human Bones” (LHB). Based on the problem of LHB, the author discusses the general issue of the nature of human sacrifices and the possibilities of their identification at archaeological sites.

Ulla Mannering, a renowned specialist in the clothing of people from Scandinavian bogs, discusses several aspects of her research in a short chapter. The examples concerned are from the Late Iron Age. To present her findings, she interprets the outfit of the Huldremose Woman in more detail. The work also includes a tabular summary of clothing discoveries from Danish bogs. In conclusion, Ulla Mannering draws attention to the ritual significance of the clothing and the interpretation possibilities resulting from its analysis for describing social structures in the pre-Roman period.

Niels Lynnerup, an experienced specialist in forensic medicine, together with archaeologist Pauline Asingh, present their observations on the causes of death of bog victims in a short fifth chapter. The text begins with a historical introduction discussing progress in research on Danish bog bodies. The authors emphasise the importance of modern specialist studies of 14 bodies conducted in the last 20 years. They have provided enormous interpretation possibilities on the physical characteristics of these individuals, as well as the causes of their deaths. These are often results inconsistent with older findings. When analysing the causes of death, repeated cases of quick execution are emphasised. The final part of the article – “Meeting gods in wetland” – contains reflections on the role of bogs in the ideology of prehistoric communities. In conclusion, the authors draw attention to the fact that the previous findings of bog bodies were always accidental discoveries, which significantly complicates and sometimes prevents multi-faceted scientific research.

The unusual discovery of six skulls in pits from the Roman period in Svennum bog on Vendyssel, Denmark, is the subject of Sidsel Wåhlin’s considerations in Chapter 6. The context of this interesting discovery is discussed and interpreted here. Analyses have shown that some of these skulls were defleshed before deposition. The article presents multi-faceted specialist studies of these discoveries. The text ends with considerations of the rituals of prehistoric and historical communities, such as “The power of skulls as sacred objects”.

In Chapter 7, Mads Ravn discusses one particular bog body: Haraldskær Woman. As with other parts of the book, the case study is the starting point for a general presentation of the nature of bog bodies. Discovered in 1835, Haraldskær Woman was identified as Queen Gunhild (wife of Harald Bluetooth) and reburied in stately robes in a medieval church. It remained there until 2012, when the body was transported

to the Vejle Museum, where much specialist research was carried out. Mads Ravn attempts an anthropological interpretation of these analyses, ending his chapter with remarks on the symbolic, universal significance of wetlands – as liminal landscapes.

In Chapter 8, Christina Fredengren presents her observations on bog bodies and body parts, resulting from her experiences with the “Water of the Times” project. This concerned finds from Sweden. In her research method, she attempted to apply critical feminist posthuman theories, which oppose the traditional anthropocentric approach. In this approach, bog finds establish relationships between humans, animals and the landscape. Fredengren wants to deal with research on the nature of inhumane, i.e., social and ideological mechanisms leading to killability. These processes lead to treating humans as dehumanised tools used in the process of segregating individuals into normalised and unnormalised. This perspective, written in the spirit of posthumanism, presents alternative aspects of human sacrifices and complements the general interpretations presented in other chapters.

Matthew J. Walsh, Pernille Pantmann and Marianne Moen presented in Chapter 9 the custom of ritually depositing white stones in wetlands. The source basis for explaining this issue are selected Danish prehistoric sites. The authors discuss in detail the cosmological significance of the act of throwing stones, referring to various mythological examples. They also devote attention to interpreting white stones as substitutes for other sacrifices/offerings. This is an interesting discussion of a type of find that is rarely the subject of scientific interpretation.

Bo Jensen examines the problem of early medieval ritual killing in Northern Europe in Chapter 10. After presenting written sources in the first part of the work, Jensen concludes that they do not correspond well with data from archaeological sites. The written sources describe executions by hanging, but there is no information about the decapitations known from archaeological sources. The author also presents an extensive catalogue of examples of decapitations from the Viking era. He tries to explain this situation by the predominance of decapitated individuals killed in military conflicts in archaeological sources.

In Chapter 11, Mads D. Jensen and Jesper Olsen discuss the case of two decapitated individuals from Tissø. They classify these finds as “deviant graves”, which are among the latest discoveries of this type from the Viking Age, associated with the period of consolidation of the role of the Christian church in the Danish kingdom. The text included detailed discussion of the context of the find, problems related to its dating and the significance of the act of decapitation. The authors try to link the resulting reconstruction of the situation of public punishment with social and political changes (“administration of the monopoly of violence”) in the 11th-century Danish state.

In the last part, Klas Wikström af Edholm discusses human sacrifices

in the pages of Old Norse skaldic poetry. Starting from the definition of sacrifice, the author discusses killing enemies as a sacrificial act. He disagrees with the simple reconstruction, assuming that this act was an aesthetic metaphor showing the sacrifice to Odin of the slain, who will receive the afterlife. However, he reads from the Viking texts the importance of the killings themselves – as the essence of sacrifice.

A set of 41 tables concerning the articles discussed above is placed at the end of the book. This is not a fortunate solution for the reader. One could also expect more figures of all kinds to illustrate the striking subject matter of this work. Not all figures correspond in quality to the attractiveness of the presented discoveries.

The texts presented above (together with the introductory chapters) make up a fascinating story presenting the issue of Norse human sacrifices from different sides. Sometimes, different concepts concerning the analysed problems are proposed. The chapters consist of presentations of the basic evidence and attempts to interpret the material as best as possible. The form of the publication means that sometimes the discussions need to be longer and sometimes are repetitions of information already known to the reader from earlier works. However, the whole makes up an attractive publication that allows the reader to get to know the views of a galaxy of recognised specialists in the field of research on the fascinating topic of bog bodies.

